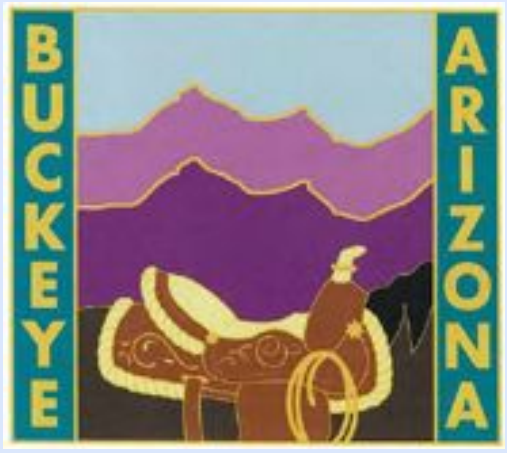
TOWN OF BUCKEYE DEVELOPMENT IMPACT FEE STUDY UPDATE
DRAFT DEVELOPMENT FEES, INFRASTRUCTURE IMPROVEMENT PLAN AND LAND USE ASSUMPTIONS

The Town of Buckeye is in the process of revising its Development Impact Fees pursuant to revisions made by the State legislature to Arizona Revised Statutes (ARS) Section 9-463.05 in 2012. The new legislation changed what is defined as Necessary Public Services and specified how development impact fees must be calculated. New development impact fees pursuant to this methodology must be adopted by cities no later than August 1, 2014.

Attached is a copy of a Draft Development Fees, Infrastructure Improvement Plan, and Land Use Assumptions Dated November 21, 2013. The Town is making this draft document available for your review and comment. It is projected that a formal public hearing will be held on this document on January 21, 2014; however, we encourage you to submit your comments well in advance of that meeting so they can be taken into consideration. Although your comments will be accepted up to and at the public hearing, we request that you submit your comments in writing to the Development Services Department no later than January 6, 2014.



DRAFT DEVELOPMENT FEES, INFRASTRUCTURE IMPROVEMENTS PLAN, AND LAND USE ASSUMPTIONS

Prepared for:

Town of Buckeye, Arizona

November 20, 2013

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EXECUTIVE SUMMARY

Arizona's enabling legislation for development fees (ARS 9-463.05) calls for three integrated products: 1) Land Use Assumptions for at least 10 years (found in Appendix C), 2) Infrastructure Improvements Plan (abbreviated IIP and contained within each public facility section of this report), and 3) Development Fees (preliminary amounts summarized below and discussed in detail in each public facility section). All three products are contained in this document, but the State now requires a two-phase adoption process. The land use assumptions and IIP will be reviewed, refined, and approved before focusing on the development fees. Because the preliminary fees presented in this draft depend on the land use assumptions and infrastructure plans, the fee amounts will change as the Town goes through the adoption process.

In contrast to many General Plans and Master Plans for specific types of infrastructure, the IIP is limited to 10 years. Another important change in the legislation is the requirement that fees be based on the same Level-Of-Service (LOS) provided to existing development. LOS may increase, but not by means of development fees. A final highlight of the enabling legislation is specific limitations on necessary public services. For example, only 10,000 square feet of a new library may be funded with development fees.

This draft of Buckeye's IIP and preliminary development fees includes the necessary public services listed below.

- Parks and Recreational Facilities
- Library Facilities
- Streets
- Police Facilities
- Fire Facilities
- Water Facilities
- Wastewater Facilities

Development fees are one-time payments used to construct system improvements needed to accommodate new development. The fee represents future development's proportionate share of infrastructure capacity. Development fees may only be used for capital improvements or debt service for growth-related infrastructure. In contrast to general taxes, development fees may not be used for operations, maintenance, replacement or correcting existing deficiencies.

Arizona Development Fee Enabling Legislation

Arizona Revised Statutes 9-463.05 governs how development fees are calculated for municipalities in Arizona. During the state legislative session of 2011, Senate Bill 1525 (SB 1525) was introduced which significantly amended the development fee enabling legislation. The changes included:

- Amending existing development fee programs by January 1, 2012.
- Abandoning existing development fee programs by August 1, 2014.
- New development fee program structure revolving around a unified Land Use Assumptions document and Infrastructure Improvements Plan.
- New adoption procedures for the Land Use Assumptions, Infrastructure Improvements Plan, and development fees.
- New definitions, including "necessary public services" which defines what categories and types of infrastructure may be funded with development fees.
- Time limitations in development fee collections and expenditures.
- New requirements for credits, "grandfathering" rules, and refunds.

As documented in this report, the Town of Buckeye has complied with Arizona's development fee enabling legislation and applicable legal precedents. Development fees are proportionate and reasonably related to the capital improvement demands of new development. Specific costs have been identified using local data and current dollars. With input from Town staff, TischlerBise determined demand indicators for each type of infrastructure and calculated proportionate share factors to allocate costs by type of development. This report documents the formulas and input variables used to calculate the development fees for each type of public facility. Development fee methodologies also identify the extent to which new development is entitled to various types of credits to avoid potential double payment of growth-related capital costs.

Necessary Public Services

Under the new requirements of the development fee enabling legislation, development fees may be only used for construction, acquisition or expansion of public facilities that are necessary public services. "Necessary public service" means any of the following categories of facilities that have a life expectancy of three or more years and that are owned and operated on behalf of the municipality:

- Water Facilities
- Wastewater Facilities
- Storm Water, Drainage, and Flood Control Facilities
- Library Facilities
- Streets Facilities
- Fire and Police Facilities
- Neighborhood Parks and Recreational Facilities
- Any facility that was financed before June 1, 2011 and that meets the following requirements:
    1. Development fees were pledged to repay debt service obligations related to the construction of the facility.
    2. After August 1, 2014, any development fees collected are used solely for the payment of principal and interest on the portion of the bonds, notes, or other debt service obligations issued before June 1, 2011 to finance construction of the facility.

Infrastructure Improvements Plan

Development fees must be calculated pursuant to an Infrastructure Improvements Plan. For each necessary public service that is the subject of a development fee, the IIP shall include:

- *A description of the existing necessary public services in the service area and the cost to update, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed on this state, as applicable.*
- *An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable.*
- *A description of all or the parts of the necessary public services or facility expansion and their costs necessitated by and attributable to development in the service area based on the approved land use assumptions, including a forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in the state, as applicable.*
- *A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility*

expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial.

- *The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria.*
- *The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years.*
- *A forecast of revenues generated by new service units other than development fees, which shall include estimated state-shared revenue, highway users revenue, federal revenue, ad valorem property taxes, construction contracting or similar excise taxes and the capital recovery portion of utility fees attributable to development based on the approved land use assumptions and a plan to include these contributions in determining the extent of the burden imposed by the development, as required in subsection B.12 (i.e. requirements for development fees) and quoted in the following discussion of offsets.*

Offsets

New development should not be required to pay twice for the cost of new facilities – once through development fees and again through other taxes or fees that are used to fund the same facilities. To avoid such potential double-payment, development fees may be reduced, and such a reduction is referred to as an "offset." Offsets are incorporated into the development fee calculation. While this has long been a part of development fee practice in Arizona, SB 1525 amended state enabling legislation to add the following provision (Subsection 9-463.05.B.12, ARS):

> *The municipality shall forecast the contribution to be made in the future in cash or by taxes, fees, assessments or other sources of revenue derived from the property owner towards the capital costs of the necessary public service covered by the development fee and shall include these contributions in determining the extent of the burden imposed by the development. Beginning August 1, 2014, for purposes of calculating the required offset to development fees pursuant to this subsection, if a municipality imposes a construction contracting or similar excise tax rate in excess of the percentage amount of the transaction privilege tax rate imposed on the majority of other transaction privilege tax classifications, the entire excess portion of the construction contracting or similar excise tax shall be treated as a contribution to the capital costs of necessary public services provided to development for which development fees are assessed, unless the excess portion was already taken into account for such purpose pursuant to this subsection.*

In general, offsets are only required for funding that is dedicated for capacity-expanding improvements of the type addressed by the development fee. A municipality is not required to use general fund revenue to pay for growth-related improvements. Finally, Arizona's enabling legislation now requires municipalities to provide offsets for the excess portion of any construction contracting excise tax.

Qualified Professionals

Qualified professionals must prepare the IIP, using general accepted engineering and planning practices. A qualified professional is defined as "a professional engineer, surveyor, financial analyst or planner providing services within the scope of the person's license, education, or experience." TischlerBise is a fiscal, economic, and planning consulting firm specializing in the cost of growth services. Our services include development fees, fiscal impact analysis, infrastructure funding, user fee and cost of service

studies, capital improvement plans, and fiscal software. TischlerBise has prepared over 800 development fee studies over the past 30 years for local governments across the United States.

Conceptual Development Fee Calculation

In contrast to project-level improvements, development fees fund growth-related infrastructure that will benefit multiple development projects, or the entire jurisdiction (usually referred to as system improvements). The first step is to determine an appropriate demand indicator for the particular type of infrastructure. The demand indicator measures the number of service units for each unit of development. For example, an appropriate indicator of the demand for parks is population growth and the increase in population can be estimated from the average number of persons per housing unit. The second step in the development fee formula is to determine infrastructure units per demand unit, typically called Level-Of-Service (LOS) standards. In keeping with the park example, a common LOS standard is improved park acreage per thousand people. The third step in the development fee formula is the cost of various infrastructure units. To complete the park example, this part of the formula would establish the cost per acre for land acquisition and/or park improvements.

General Methodologies

There are three general methods for calculating development fees. The choice of a particular method depends primarily on the timing of infrastructure construction (past, concurrent, or future) and service characteristics of the facility type being addressed. Each method has advantages and disadvantages in a particular situation, and can be used simultaneously for different cost components.

Reduced to its simplest terms, the process of calculating development impact fees involves two main steps: (1) determining the cost of development-related capital improvements and (2) allocating those costs equitably to various types of development. In practice, though, the calculation of development fees can become quite complicated because of the many variables involved in defining the relationship between development and the need for facilities within the designated service area. The following paragraphs discuss three basic methods for calculating development fees and how those methods can be applied.

Cost Recovery (past improvements)

The rationale for recoupment, often called cost recovery, is that new development is paying for its share of the useful life and remaining capacity of facilities already built, or land already purchased, from which new growth will benefit. This methodology is often used for utility systems that must provide adequate capacity before new development can take place.

Incremental Expansion (concurrent improvements)

The incremental expansion method documents current level-of-service (LOS) standards for each type of public facility, using both quantitative and qualitative measures. By definition there are no existing infrastructure deficiencies or surplus capacity in infrastructure. New development is only paying its proportionate share to maintain current standards for growth-related infrastructure. Fee revenue will be used to expand or provide additional facilities, as needed to keep pace with new development.

Plan-Based Fee (future improvements)

The plan-based method allocates costs for a specified set of improvements to a specified amount of service units. Improvements are typically identified in a facility master plan and development potential is identified by the land use assumptions. There are two options for determining the cost per service unit: 1) total cost of a public facility can be divided by total demand units (average cost approach), or 2)

the growth-share of the public facility cost can be divided by the net increase in demand units over the planning timeframe (marginal cost approach).

Preliminary Development Fees

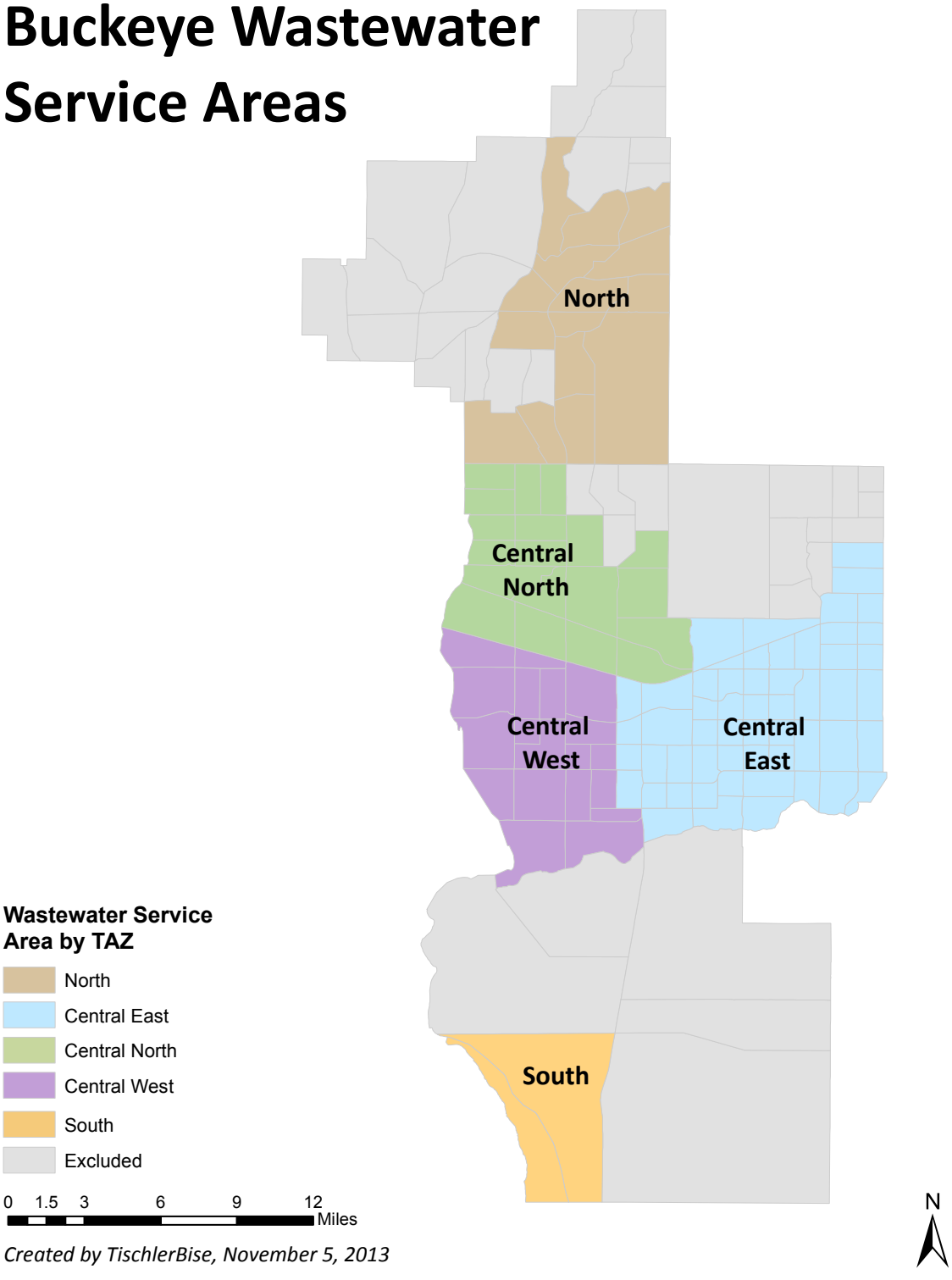
Figure 1 summarizes the methods and cost components for each type of infrastructure included in this draft of Buckeye's IIP and development fee update.

Figure 1 – Development Fee Methods and Cost Components

Type of Fee	*Cost Recovery (past)*	*Incremental Expansion (present)*	*Plan-Based (future)*
1. Parks & Recreation		Parks, Pools, and Community Centers	
2. Library		Buildings	
3. Streets			Lane Miles of Arterials and Intersection Improvements
4. Police		Buildings, Vehicles, and Equipment	
5. Fire		Fire Stations and Apparatus	
6. Water	Developer Reimbursements		Storage, Booster Pump, Wells, Treatment, Water Resources, and Major Lines
7. Sewer	Developer Reimbursements		Collection System, Treatment, and Reuse/Recharge

Arizona's enabling legislation requires a determination of service areas, within which a substantial nexus exists between public facilities and the development being served. Buckeye provides town-wide service for parks/recreation, libraries, streets, police, and fire facilities. Water and sewer facilities have five service areas, with general boundaries shown in the map below (see Figure 2). Traffic Analysis Zones (TAZs), as designated by gray polygons, provide the basic building blocks used to analyze service areas. The service areas for water and wastewater facilities share the same geographic pattern and nomenclature, but private water companies reduce the Town's water service area. Over the next five years, no significant development is expected in any of the TAZs shaded light gray in the map below. These areas are excluded from the service area of all public facilities.

Figure 2 – Wastewater Service Areas



The preliminary fees shown below in this draft will be revised after public input on the land use assumptions and IIP. Also, the preliminary fees do not fully evaluate the need for revenue credits, or the "required offset" (discussed further in Appendix A) that considers available revenues that might be used for growth-related infrastructure.

Non-utility fees for residential development are summarized in Figure 3, including current and preliminary fees for each type of infrastructure. The preliminary fees increase 49-55% for residential development.

Figure 3 – Current and Preliminary Non-Utility Fees for Residential Development

Residential		***Per Dwelling Unit in Buckeye***	
		Single Unit	*2+ Units per Structure*
Parks and Recreation			
	Current	$1,109	$832
	Preliminary	$1,237	$967
Libraries			
	Current	$165	$124
	Preliminary	$325	$254
Streets			
	Current	$246	$124
	Preliminary	$1,207	$843
Police			
	Current	$506	$380
	Preliminary	$928	$725
Fire			
	Current	$1,178	$884
	Preliminary	$1,084	$847
Total			
	Current	$3,204	$2,344
	Preliminary	$4,781	$3,636
Increase/(Decrease)		$1,577	$1,292
Percent Change		49%	55%

Fees for nonresidential development, per thousand square feet of floor area, are summarized in Figure 4. The preliminary fees decrease for all nonresidential types except commercial development (10% increase).

Figure 4 – Current and Preliminary Non-Utility Fees for Nonresidential Development

Nonresidential	***Per Thousand Square Feet of Floor Area in Buckeye***								
Type	*Streets*		*Police*		*Fire*		*TOTAL*		*Increase/*
	Current	*Preliminary*	*Current*	*Preliminary*	*Current*	*Preliminary*	*Current*	*Preliminary*	*(Decrease)*
Industrial	$165	$212	$415	$142	$965	$269	$1,545	$623	($922)
Commercial	$976	$1,522	$592	$1,127	$1,378	$592	$2,946	$3,241	$295
Institutional	$379	$608	$592	$407	$1,378	$296	$2,349	$1,311	($1,038)
Office/Other Services	$379	$659	$592	$441	$1,378	$985	$2,349	$2,085	($264)

Current and preliminary development fees for water and wastewater facilities are summarized in Figure 5. Current utility development fees in Buckeye are imposed in three "Zones." Due to changes in Arizona's enabling legislation, TischlerBise recommends five "service areas" (see maps in the water and wastewater sections of this report). The major change from the current fees is splitting Zone 3 into separate service areas. North of Northern Avenue is now referred to as the "North" service area. South of Northern Avenue to I-10, and generally west of the White Tank Mountains, is now referred to as "Central North." The master planned communities of Sundance and Blue Horizons are now combined with Central Buckeye and referred to as the "Central East" service area.

To be consistent with the current development fee schedule for utilities, TischlerBise will extend the preliminary fee tables to indicate fees up to a four-inch meter in the next draft of this document. In combination, the preliminary water and sewer fees for the North Service Area decrease by 9%, with increases for the other service areas. The largest increases are for water and wastewater facilities in the Central West and South Service Areas.

Figure 5 – Current and Preliminary Fees for Utilities

All Development Types by Service Area (for smallest meter)							
	Water		Wastewater		TOTAL		*Increase/*
Utility Service Area	*Current*	*Proposed*	*Current*	*Proposed*	*Current*	*Proposed*	*(Decrease)*
North	$4,766	$4,555	$4,440	$3,862	$9,206	$8,417	($789)
Central North	$4,766	$8,395	$4,440	$6,348	$9,206	$14,743	$5,537
Central West	$2,574	$10,665	$5,988	$9,596	$8,562	$20,261	$11,699
Central East	$3,689	$6,412	$4,169	$3,891	$7,858	$10,303	$2,445
South	$0	$17,635	$0	$7,859	$0	$25,494	$25,494

To obtain the total development fee for a single residential unit, utility fees (shown in Figure 5) must be added to the non-utility fees (shown in Figure 3). For a single residential unit with the smallest meter, current and preliminary total development fees, by geographic area, are shown in Figure 6. Preliminary fees increase by 6% in the North Service Area. In the Central areas, preliminary fees increase by 36-113 percent. The South Service Area does not currently pay development fees for water and wastewater facilities, which is the reason for the substantial increase.

Figure 6 – Current and Preliminary Total Fees for a Single Residential Unit by Area

Total Fees for Single Unit Residential (one-inch or less meter)

Utility Service Area	*Current*	*Proposed*	*$ Change*	*% Change*
North	$12,410	$13,198	$788	6%
Central North	$12,410	$19,524	$7,114	57%
Central West	$11,766	$25,042	$13,276	113%
Central East	$11,062	$15,084	$4,022	36%
South	$3,204	$30,275	$27,071	845%

PARKS AND RECREATIONAL FACILITIES

ARS 9-463.05 (T)(7)(g) defines the facilities and assets which can be included in the Parks and Recreational Facilities IIP:

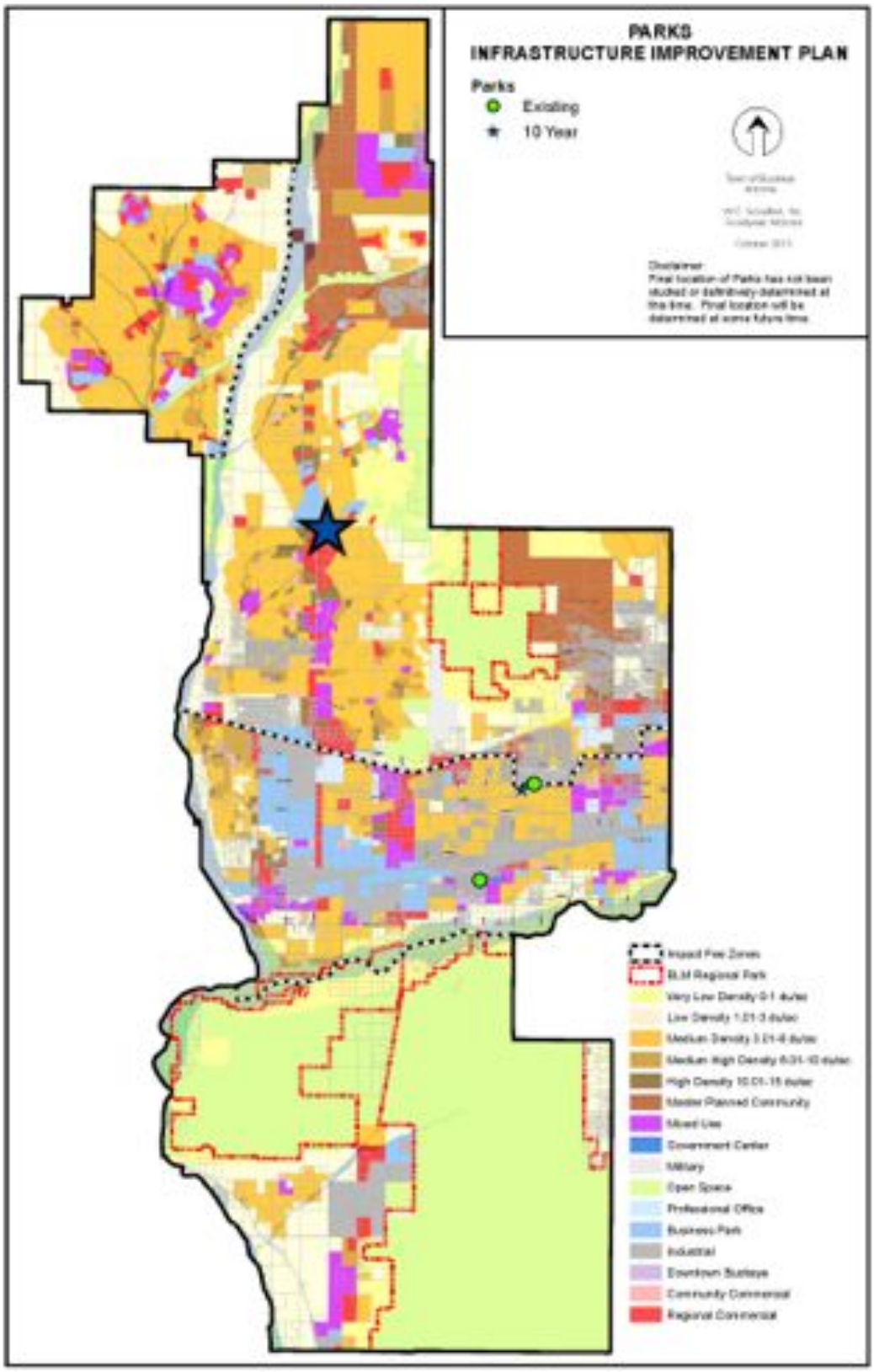
> *"Neighborhood parks and recreational facilities on real property up to thirty acres in area, or parks and recreational facilities larger than thirty acres if the facilities provide a direct benefit to the development. Park and recreational facilities do not include vehicles, equipment or that portion of any facility that is used for amusement parks, aquariums, aquatic centers, auditoriums, arenas, arts and cultural facilities, bandstand and orchestra facilities, bathhouses, boathouses, clubhouses, community centers greater than three thousand square feet in floor area, environmental education centers, equestrian facilities, golf course facilities, greenhouses, lakes, museums, theme parks, water reclamation or riparian areas, wetlands, zoo facilities or similar recreational facilities, but may include swimming pools."*

The infrastructure improvements plan includes components for parks, pools, and community centers. The Town has documented existing infrastructure standards and will use an incremental expansion cost method, with development fees maintaining existing standards over time.

Parks and Recreation Service Area

Existing parks and recreation facilities are generally located in the central demographic areas (see Figure PR1). Over the next five years, the service area for parks and recreation development fees includes the north, central, and south demographic areas, discussed further in the Land Use Assumptions (see Appendix C). Given the expectation that no development will occur in the northwest demographic area over the next five years, it is excluded from the parks and recreation service area.

Figure PR1 – Map of Parks and Recreation Facilities



Proportionate Share for Parks and Recreation Facilities

ARS 9-463.05.B.3 states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to serve new development. The Town of Buckeye has determined the best indicator of the demand for parks and recreation facilities is peak population. Because nonresidential development only creates an indirect and insignificant demand, capital costs are allocated 100% to residential development.

Existing Parks, Standards, and IIP

As specified in ARS 9-463.05.B.4 development fees in Buckeye are based on the same level of service provided to existing development. Figure PR2 inventories existing parks in Buckeye that are roughly the same size as future parks that will be funded with development fees. Consistent with Arizona's enabling legislation, large regional parks are excluded from development fees. Also, Buckeye excluded small parks that might not provide a substantial nexus to the entire service area, including Buckeye Town Park (9 acres) and Bayless Park (8 acres). The average size of the parks listed below is 26.5 acres. Because Buckeye will limit development fee funding to mid-size parks that are roughly 20-30 acres, smaller parks are considered to be project-level improvements subject to development agreements.

Figure PR2 – Buckeye Parks Inventory

Existing Parks	*Improved Acres*
Sundance Park (Phase 1)	30.0
Earl Edgar Park	23.0
TOTAL	53.0
Average Acres per Park =>	26.5

For residential development, Buckeye will use peak population to derive current infrastructure standards for parks. Figure PR3 indicates the allocation of park acreage to 2013 service units. Buckeye has provided 0.8 acres of improved parks for every thousand residents within the Town. The cost factor for parks improvements is $173,000 per acre, based on recent Phase I expenditure for Sundance Park. This cost factor was confirmed by the developer of Tartesso Sports Park (21 acres), which averaged $186,000 per acre for design and improvements.

In the 2009 development fee update, the Town assumed a land cost of $115,000 for parks, but a more conservative estimate of $80,000 per acre is recommended for the 2013 update. To maintain current infrastructure standards for parks, Buckeye needs to spend $208.53 for each additional resident.

Figure PR3 – Standards for Parks

Allocation Factors for Park Improvements

Improvements Cost per Acre*	$173,000
Land Cost per Acre**	$80,000
Total Cost per Average-Size Park	$6,700,000
Residential Proportionate Share	100%
Nonresidential Proportionate Share	0%
Town of Buckeye Peak Population in 2013	64,306

Infrastructure Standards for Park Improvements

	Park Acres	*Improvemnts plus Land Cost*
Residential (per person)	0.0008	$208.51

** Based on Town of Buckeye expenditure of $5.2 million for improvements at Sundance Park.*
*** The 2009 development fee update assumed $115,000 per acre for land. A more conservative estimate is recommended for the 2013 update.*

Arizona's development fee enabling legislation requires jurisdictions to convert land use assumptions into service units and the corresponding need for additional infrastructure over the next ten years. As shown in Figure PR4, projected population drives the needs analysis for parks. To maintain current standards, Buckeye will need approximately 49 acres of improved parks over the next ten years. The ten-year, growth-related capital cost for parks (land plus improvements) is approximately $12.4 million. Buckeye intends to build two parks similar to Sundance Community Park, with sport fields, a restroom/concession building, large playground, a dog park, picnic areas and other amenities. The Town will complete Phase 2 of Sundance and build an additional park north of I-10, within the next ten years.

Figure PR4 – Parks Needed to Accommodate Growth

		Park Needs Analysis	
		Town of Buckeye	*Acres of*
	Year	*Peak Population*	*Improved Parks*
Base	2013	64,306	53.0
Year 1	2014	68,200	56.2
Year 2	2015	72,279	59.6
Year 3	2016	76,554	63.1
Year 4	2017	81,035	66.8
Year 5	2018	85,737	70.7
Year 6	2019	90,670	74.7
Year 7	2020	95,845	79.0
Year 8	2021	105,161	86.7
Year 9	2022	114,480	94.4
Year 10	2023	123,796	102.0
	Ten-Yr Increase	59,490	49.0
	Total Projected Expenditures on Parks =>		$12,397,000

Existing Standards and IIP for Pools

Buckeye currently has one swimming pool that serves a peak population of 64,306 Town residents. The cost of Phoenix metro-area pools has increased over time. For example, the City of Glendale spent approximately $3.3 million to construct Rose Lane pool in 2004. The cost of Buckeye's next pool is expected to be approximately $6 million, based on a cost estimate provided to Goodyear by PLANet, as part of their Master Plan update. In comparison, the Town of Gilbert plans to construct a new pool at Campo Verde High School within the next five years at an estimated cost of $8 million. To maintain current infrastructure standards for pools, Buckeye needs to spend $93.30 for each additional resident.

Figure PR5 – Swimming Pool Standards in Buckeye

Allocation and Cost Factors for Pools

Estimated Pool Cost	$6,000,000
Residential Proportionate Share	100%
Nonresidential Proportionate Share	0%
Town of Buckeye Population in 2013	64,306

Infrastructure Standards for Pools

Average Residents per Pool	64,306
Capital Cost per Person	$93.30

Arizona's development fee enabling legislation requires jurisdictions to convert land use assumptions into service units and the corresponding need for additional infrastructure over the next ten years. As shown in Figure PR6, projected Town population drives the needs analysis for pools. To maintain the current standard, Buckeye will construct an additional pool within the next ten years, but development fees will only fund 93% of the capital cost. The ten-year, growth-share for the new pool is approximately $5.55 million, with the funding gap of $450,000 requiring General Fund revenue. The next pool will be part of the second phase of Sundance Park and be similar in size to the pool located in downtown Buckeye. The new pool will feature a deep-end with slide and diving board, swimming lanes, and a zero depth area for younger children. The pool will have a building with changing rooms, offices for staff and lifeguards, storage for pool equipment and chemicals, a program room, and concession area.

Figure PR6 – Growth-Related Need for Additional Pool

		Need for Pools
		Buckeye MPA Peak
	Year	*Population in 2013*
Base	2013	64,306
Year 1	2014	68,200
Year 2	2015	72,279
Year 3	2016	76,554
Year 4	2017	81,035
Year 5	2018	85,737
Year 6	2019	90,670
Year 7	2020	95,845
Year 8	2021	105,161
Year 9	2022	114,480
Year 10	2023	123,796
	Ten-Yr Increase	59,490
Percent of Additional Pool Funded by Fees =>		93%
Growth Share of Additional Pool =>		$5,550,000
Other Funding =>		$450,000

Standards and IIP for Community Centers

Figure PR7 inventories existing community centers in Buckeye. For residential development, Buckeye will use the Town's peak population to derive current infrastructure standards. Buckeye has provided 0.29 square feet of community centers for every resident.

WCS (Municipal Engineers and Planners) and Town staff researched the cost of typical recreation buildings in the Phoenix metro area and recommend a cost factor of $300 per square foot. In comparison, Gilbert is spending $386 per square foot to construct Crossroads Community Center, which will be similar to other existing centers in that community. To maintain current infrastructure standard for community centers, Buckeye needs to spend $87.70 for each additional resident.

Figure PR7 – Infrastructure Standards for Community Centers

Existing Community Centers	*Square Feet*
Senior / Community Center (201 E Centre)	8,000
Saide Center (1003 E Eason)	8,000
Sundance Center (22865 Lower Buckeye)	2,800
TOTAL	18,800

Allocation Factors for Community Centers

Cost per Square Foot	$300
Residential Proportionate Share	100%
Nonresidential Share	0%
Town of Buckeye 2013 Peak Population	64,306

Infrastructure Standards for Community Centers

Existing Level Of Service	0.29	Sq Ft per person
Growth Share of Capital Cost	$87.70	per person

Arizona's development fee enabling legislation requires jurisdictions to convert land use assumptions into service units and the corresponding need for additional infrastructure over the next ten years. As shown in Figure PR8, projected population drives the needs analysis for community centers. To maintain current standards, Buckeye will need approximately 17,392 square feet of community centers over the next ten years. Arizona's enabling legislation limits development fee funding of community centers to 3,000 square feet. The ten-year, growth-related capital cost for community centers is approximately $5.2 million. Buckeye plans to construct six community centers, each with approximately 3,000 square feet. These centers will have a large multi-purpose room, restrooms, and kitchen. The facilities will offer a variety of programs, such as special interest classes, senior programs, and recreation activities. All six will be located in central and north Buckeye.

Figure PR8 – Community Centers Needed to Accommodate Growth

		Community Center Needs	
		Buckeye MPA Peak Population	*Sq Ft of Community Centers*
	Year		
Base	2013	64,306	18,800
Year 1	2014	68,200	19,938
Year 2	2015	72,279	21,131
Year 3	2016	76,554	22,381
Year 4	2017	81,035	23,691
Year 5	2018	85,737	25,065
Year 6	2019	90,670	26,508
Year 7	2020	95,845	28,020
Year 8	2021	105,161	30,744
Year 9	2022	114,480	33,468
Year 10	2023	123,796	36,192
Ten-Yr Increase		59,490	17,392
	Cost of Community Centers =>		$5,218,000

Parks and Recreation Development Fees

Infrastructure standards and cost factors for parks and recreation facilities are summarized in the upper portion of Figure PR9. The conversion of infrastructure needs and costs per service unit into a cost per development unit is also shown in the table below. For residential development, average number of persons in an occupied dwelling (also known as a household) provides the necessary conversion. Persons per household, by type of residential structure, are from the Town's adopted design guidelines for water and sewer facilities. Updated development fees for parks and recreation facilities are shown in the column with light green shading. Preliminary development fees are essentially equal to current amounts.

The cost of professional services related to preparation of the IIP and development fees is specifically authorized in Arizona's enabling legislation. As explained further in Appendix B the cost of professional service is allocated to the projected increase in service units over the next five years, which matches the mandatory update cycle for development fees.

As discussed further in Appendix A, Arizona's enabling legislation requires municipalities to forecast the revenue contribution to be made in the future towards capital costs and shall include these contributions in determining the extent of burden imposed by development. For parks and recreation facilities, TischlerBise included a 1% reduction as a placeholder that will be further evaluated in the next draft of the development fee study.

Figure PR9 – Parks and Recreation Service Units and Fees per Development Unit

Fee Component	*Cost per Person*
Parks (land + improvements)	$208.51
Pools	$93.30
Community Centers	$87.70
IIP and Fee Update	$1.26
Subtotal	$390.77
Required Offset	1%
Net Capital Cost	$386.86

Residential Fee (per housing unit)

Development Type	*Persons per Household*	*Proposed Fee*	*Current Fees*	*$ Change*	*% Change*
Single Unit	3.20	$1,237	$1,109	$128	12%
2+ Units per Structure	2.50	$967	$832	$135	16%

Projected Revenue from Parks and Recreation Fees

Development fee revenue should match the need for growth-related infrastructure, which has a ten-year total cost of approximately $23 million. The table below indicates Buckeye should receive approximately $23 million in parks and recreation development fee revenue over the next ten years, if actual development matches the land use assumptions documented in Appendix C. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the need for infrastructure and development fee revenue.

Figure PR10 – Parks and Recreation Development Fee Revenue

Ten-Year Growth-Related Costs for Parks and Recreation

Parks	$12,397,000
Pool	$5,550,000
Community Centers	$5,218,000
Total	$23,165,000

Parks and Recreation Development Fee Revenue

		Single Unit $1,237 per housing unit	*2+ Units* $967 per housing unit
	Year	*Hsg Units*	*Hsg Units*
Base	2013	19,130	1,221
Year 1	2014	20,287	1,295
Year 2	2015	21,500	1,372
Year 3	2016	22,772	1,454
Year 4	2017	24,105	1,539
Year 5	2018	25,504	1,628
Year 6	2019	26,971	1,722
Year 7	2020	28,510	1,820
Year 8	2021	31,282	1,997
Year 9	2022	34,054	2,174
Year 10	2023	36,826	2,351
Ten-Yr Increase		17,696	1,130
Projected Fees =>		$21,890,000	$1,093,000
		Total	$22,983,000

LIBRARIES

ARS 9-463.05.T.7(d) defines the library facilities considered to be necessary public services.

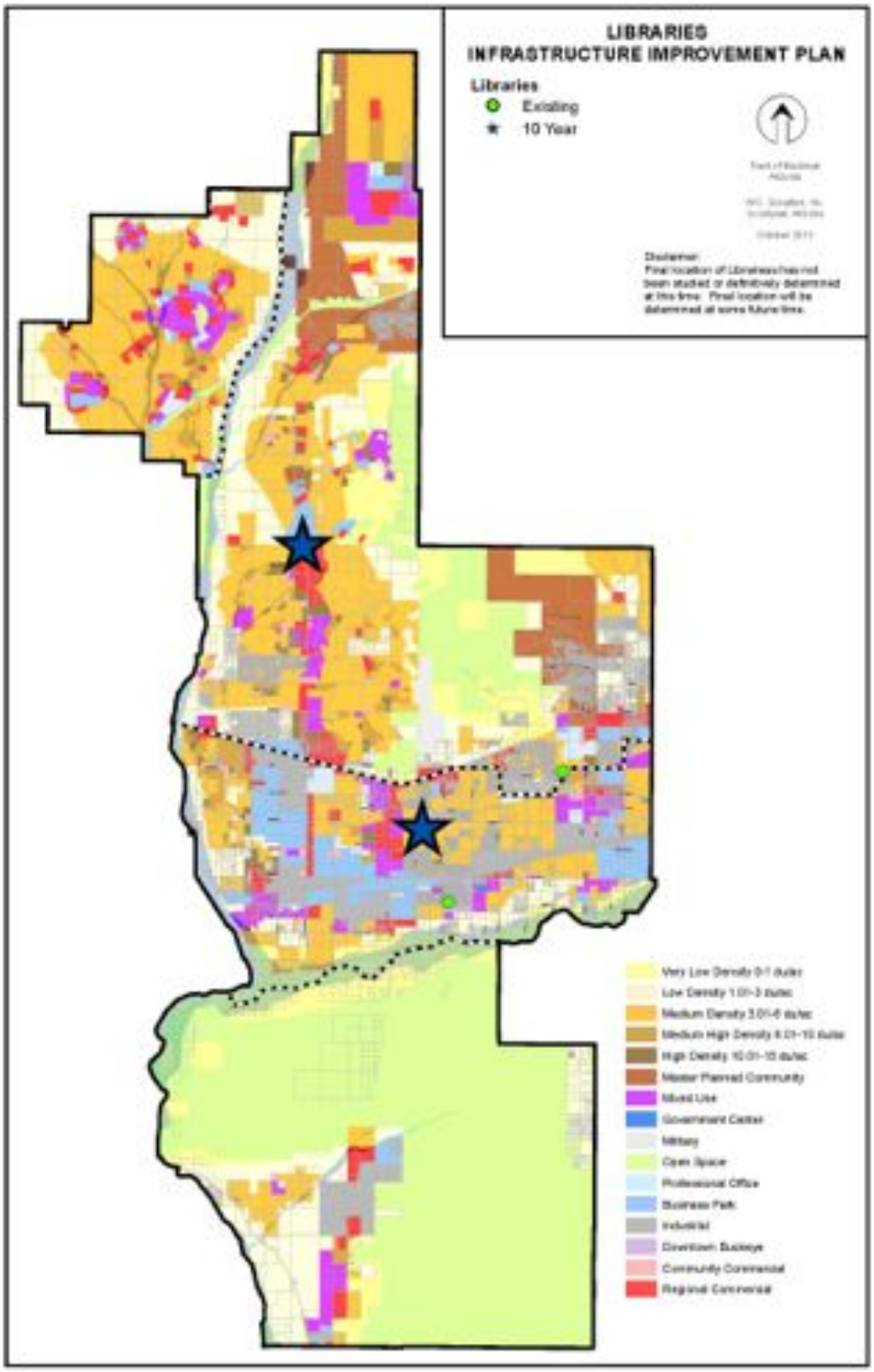
> *"Library facilities of up to ten thousand square feet that provide a direct benefit to development, not including equipment, vehicles or appurtenances."*

The Town has documented existing infrastructure standards and will use an incremental expansion cost method, with development fees maintaining the existing standards over time.

Library Service Area

During FY14-15, when the updated development fees become effective, Buckeye will have two libraries generally located in the central demographic areas (see Figure L1). Over the next five years, the Town of Buckeye service area for library development fees includes the north, central, and south demographic areas, discussed further in the Land Use Assumptions (see Appendix C). Given the expectation that no development will occur in the northwest demographic area over the next five years, it is excluded from the library service area.

Figure L1 – Map of Library Locations



Proportionate Share

ARS 9-463.05.B.3 states that the development fee shall not exceed a proportionate share of the cost of necessary public services needed to serve new development. The Town of Buckeye has determined the best indicator of the demand for libraries is peak population. In contrast to downtown Phoenix and the ASU area in Tempe, nonresidential development in Buckeye only creates an indirect and insignificant demand for library buildings. Therefore, capital costs are allocated 100% to residential development.

Existing Library Facilities

As specified in ARS 9-463.05.B.4 library development fees in Buckeye are based on the same level of service provided to existing development. Figure L2 inventories library buildings in Buckeye that will be operational during the next fiscal year when revised development fees are effective. The Sundance Crossing building is currently undergoing tenant improvements and will be operational about the time updated development fees become effective. The floor area of library building space will be needed to serve projected residents in 2014. The cost factor for future libraries ($300 per square foot of building) is from the Town of Buckeye 2012 development fee update.

Figure L2 – Buckeye Library Buildings

Location	*Sq Ft in FY14-15*
Historic Buckeye	6,400
Sundance Crossing	16,700
TOTAL	23,100

Cost per Sq Ft of Library Building* => $300

	2014
Town of Buckeye Population	68,200
Square Feet per Person	0.34
Cost per Person =>	$101.61

** Cost factor from Town of Buckeye 2012 development fees, including land.*

Library Service Units and Infrastructure Standards

For residential development, Buckeye will use peak population to derive library infrastructure standards. Figure L2 (above) indicates the allocation of library building space to 2014 service units. Buckeye's library infrastructure standard is 0.34 square feet of library building for each Town resident. To maintain the current infrastructure standard for library buildings, Buckeye needs to spend $101.61 for each additional resident.

Library Needs and IIP

Arizona's development fee enabling legislation requires jurisdictions to convert land use assumptions into service units and the corresponding need for additional infrastructure over the next ten years. As shown in Figure L3, projected population drives the needs analysis for library buildings. To maintain current standards, Buckeye will need approximately 20,150 additional square feet of library buildings

over the next ten years (roughly two 10,000 square feet libraries). The ten-year, growth-related capital cost of library buildings is approximately $6.07 million. Buckeye will build a new library north of I-10 and another central library within the next ten years. The libraries will feature a large room for programming, separate areas for children and teens, reading rooms, smaller meeting rooms, staff offices, restrooms, and areas for collection materials.

Figure L3 – Library Facilities Needed to Accommodate Growth

Infrastructure Standards

Library Standard	0.34	Sq Ft per person
Library Cost	$300	per square foot

Infrastructure Needed

	Year	*Buckeye MPA Peak Population*	*Sq Ft of Library Buildings*
Base	2013	64,306	21,781
Year 1	2014	68,200	23,100
Year 2	2015	72,279	24,482
Year 3	2016	76,554	25,930
Year 4	2017	81,035	27,447
Year 5	2018	85,737	29,040
Year 6	2019	90,670	30,711
Year 7	2020	95,845	32,464
Year 8	2021	105,161	35,619
Year 9	2022	114,480	38,775
Year 10	2023	123,796	41,931
Ten-Yr Increase		59,490	20,150
		Cost of Additional Library Space =>	$6,045,000
		Cost of Professional Services =>	$27,100
		Total Cost =>	$6,072,100

Library Development Fees

Infrastructure standards and cost factors for libraries are summarized in the upper portion of Figure L4. The conversion of infrastructure needs and costs per service unit into a cost per development unit is also shown in the table below. For residential development, average number of persons in an occupied dwelling (also known as a household) provides the necessary conversion. Persons per household, by type of residential structure, are from the Town's adopted design guidelines for water and sewer facilities. Updated development fees for library facilities are shown in the column with light purple shading. Preliminary library development fees are approximately double the current amounts.

The cost of professional services related to preparation of the IIP and development fees is specifically authorized in Arizona's enabling legislation. As explained further in Appendix B the cost of professional service is allocated to the projected increase in service units over the next five years, which matches the mandatory update cycle for development fees.

As discussed further in Appendix A, Arizona's enabling legislation requires municipalities to forecast the contribution to be made in the future towards capital costs and shall include these contributions in determining the extent of burden imposed by development. For library facilities, TischlerBise included a 1% placeholder that will be further evaluated in the next draft of the development fee study.

Figure L4 – Library Service Units and Fees per Development Unit

	Standards:
Persons Per Household	
Single Unit	3.2
2+ Units per Structure	2.5
Level Of Service	Per Person
Library Cost (current standard)	$101.61
IIP and Fee Update	$1.26
Subtotal	$102.87
Required Offset	1%
Net Capital Cost	$101.84

Residential (per housing unit)	*Proposed Fee*	*Current Fees*	*$ Change*	*% Change*
Single Unit	$325	$165	$160	97%
2+ Units per Structure	$254	$124	$130	105%

Projected Revenue from Library Fees

Development fee revenue should match the need for growth-related infrastructure, which has a ten-year total cost of approximately $6.07 million (see Figure L3 above). Figure L5 indicates Buckeye should receive approximately $6.04 million in library development fee revenue, if actual development matches the land use assumptions documented in Appendix C. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the need for infrastructure and development fee revenue.

Figure L5 – Projected Library Development Fee Revenue

Library Development Fee Revenue

		Single Unit $325 per housing unit	*2+ Units* $254 per housing unit	
		94%	6%	
	Year	*Hsg Units*	*Hsg Units*	
Base	2013	19,130	1,221	
Year 1	2014	20,287	1,295	
Year 2	2015	21,500	1,372	
Year 3	2016	22,772	1,454	
Year 4	2017	24,105	1,539	
Year 5	2018	25,504	1,628	
Year 6	2019	26,971	1,722	
Year 7	2020	28,510	1,820	
Year 8	2021	31,282	1,997	
Year 9	2022	34,054	2,174	
Year 10	2023	36,826	2,351	
Ten-Yr Increase		17,696	1,130	Total
Projected Fees =>		$5,751,000	$287,000	$6,038,000

STREETS

ARS 9-463.05 (T)(7)(f) defines the facilities and assets which can be included in the Street Facilities IIP:

> *"Street facilities located in the service area, including arterial or collector streets or roads that have been designated on an officially adopted plan of the municipality, traffic signals and rights-of-way and improvements thereon."*

Buckeye's IIP includes arterial street improvements, interchange and intersection improvements, and the cost of preparing the Street Facilities IIP and development fees.

Service Area for Streets

Buckeye development fees for streets are derived using a plan-based approach for arterial streets and improvements at interchanges or intersections. The streets fee is derived from trip generation rates, trip rate adjustment factors, average trip length weighting factors, and lane capacity. Each component is described below.

Existing Infrastructure

Lane miles of arterials and improved arterial intersections are used to document existing infrastructure standards in Buckeye. Currently, there are approximately 91.8 lane miles of arterials in Buckeye with at least four travel lanes. A lane mile is a rectangular area that is one travel lane wide and one mile long. All local and collector streets are considered project-level improvements not eligible for development fee credits or reimbursements.

For the purpose of development fees, improved intersections are limited to signalization and turn lanes where both streets are classified as arterials, or one street is an arterial and the other street is classified as a parkway. Buckeye currently has 19 improved intersections that meet these criteria.

Forecast of Service Units

Buckeye will use average weekday vehicle miles of travel as the service units for documenting existing infrastructure standards and allocating the cost of future improvements. TischlerBise created an aggregate travel model to convert development units within Buckeye to vehicle trips and vehicle miles of travel. Figure S1 summarizes the input variables for the travel model. Trip generation rates, expressed as average weekday Vehicle Trip Ends (VTE), are from the Institute of Transportation Engineers (ITE). HU is an abbreviation for housing unit. KSF is an abbreviation for square feet of nonresidential floor area, expressed in thousands. Each input variables is described further below.

Figure S1 – Input Variables for Travel Demand Model

Buckeye, Arizona	ITE Code	Dev Type	Weekday VTE	Dev Unit	Trip Adj	Trip Length Wt Factor	VMT per Dev Unit	Service Unit Index
R1	210	Single Units	9.52	HU	64%	1.21	27.72	1.00
R2	220	2+ Units	6.65	HU	64%	1.21	19.36	0.70
NR1	150	Industrial	3.56	KSF	50%	0.73	4.89	0.18
NR2	820	Commercial	42.70	KSF	33%	0.66	34.97	1.26
NR3	520	Institutional	15.43	KSF	33%	0.73	13.98	0.50
NR4	710	Office	11.03	KSF	50%	0.73	15.14	0.55
Avg Trip Length (miles)	3.76							
Capacity Per Lane	7,500							

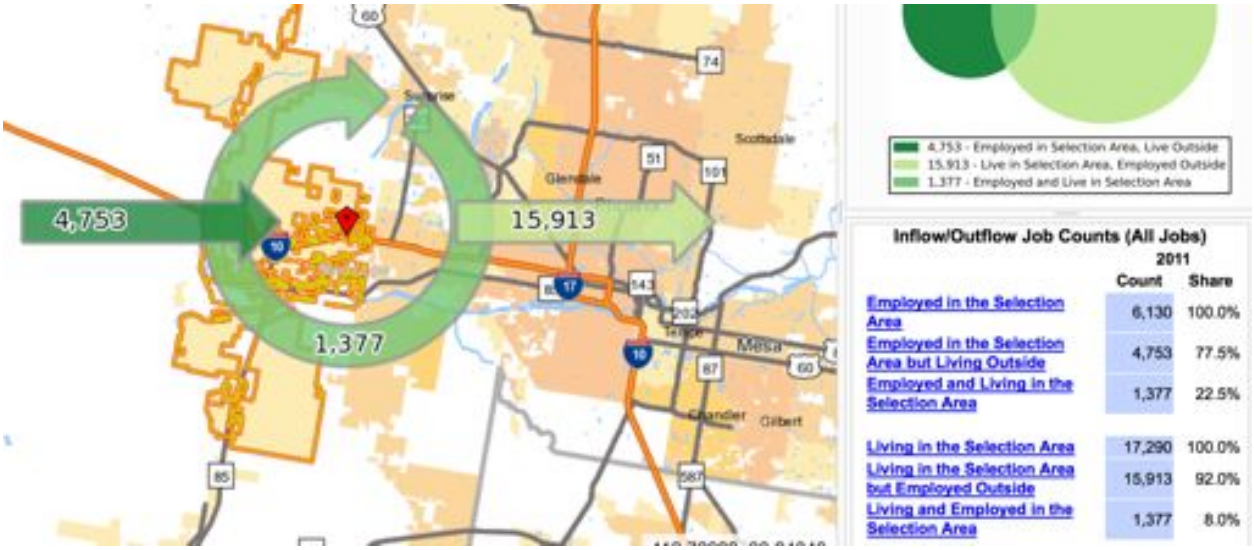
Trip Generation Rates

Buckeye development fees for streets are derived using average weekday vehicle trip ends. Trip generation rates are from the reference book Trip Generation published by the Institute of Transportation Engineers (ITE 2012). A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). To calculate street fees, trip generation rates require an adjustment factor to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50%. As discussed further below, the fee methodology includes additional adjustments to make the fees proportionate to the infrastructure demand for particular types of development.

Adjustments for Commuting Patterns and Pass-By Trips

Residential development has a larger trip adjustment factor of 64% to account for commuters leaving Buckeye for work. In other words, residential development is assigned all inbound trips plus 14% of outbound trips to account for job locations outside of Buckeye. According to the 2009 National Household Travel Survey (see Table 30) weekday work trips are typically 31% of production trips (i.e., all out-bound trips). As shown in Figure S2, the Census Bureau's web application OnTheMap indicates that approximately 92% of resident workers traveled outside the jurisdiction for work in 2011. In combination, these factors (0.31 x 0.50 x 0.92 = 0.14) support the additional 14% allocation of trips to residential development.

Figure S2 - Inflow/Outflow Analysis



For commercial development, the trip adjustment factor is less than 50% because retail development attracts vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For an average shopping center, ITE data indicate 34% of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66% of attraction trips have the commercial site as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 66% multiplied by 50%, or approximately 33% of the trip ends.

Many institutional land uses, like schools, also have significant pass-by and diverted link trips as children are dropped off and picked up by parents on their way to some other primary destination. Given this travel pattern, TischlerBise recommends the pass-by adjustment for all institutional development.

Trip Length Weighting Factor by Type of Land Use

The streets fee methodology includes a percentage adjustment, or weighting factor, to account for trip length variation by type of land use. As documented in Table 6 of the 2009 National Household Travel Survey, vehicle trips from residential development are approximately 121% of the average trip length. The residential trip length adjustment factor includes data on home-based work trips, social, and recreational purposes. Conversely, shopping trips associated with commercial development are roughly 66% of the average trip length while other nonresidential development typically accounts for trips that are 73% of the average for all trips.

Lane Capacity

Town staff recommends using 7,500 vehicles per lane per day in Buckeye. As shown in the Table 1 of the Buckeye Street Design Guidelines (inserted below), this standard is the upper range for major collectors, and a mid-range value for arterials. Even though the Town will only use fees to construct arterial lane miles, fees might be used for arterial-collector intersection improvements.

Table 1 Street Design Elements

Cross-section	Major Arterial	Arterial	Major Collector
	Urban	Urban	Urban
Minimum ROW	140	120	110
Through Lanes	6	4	4
B/C to B/C Dimensions (ft)	108	84	84
Median Width, R- Raised, P- painted (ft)	20 R	20 R	20 R
ADT per lane (vpd)	5,800 – 9100	5,800 – 8,700	3,750 – 7,500

Travel Demand and Infrastructure Standards

The relationship between development in Buckeye and the need for system improvements is shown in Figure S3. At the top of the table are data on development units in Buckeye. The table includes annual calculations, but years 6-9 are hidden from view. Trip generation rates and trip adjustment factors convert projected development into average weekday vehicle trips, as shown in the middle section of the table. A typical vehicle trip, such as a person leaving their home and traveling to work, generally begins on a local street that connects to a collector street, which connects to an arterial road and eventually to a state or interstate highway. This progression of travel up and down the functional classification chain limits the average trip length determination, for the purpose of development fees, to the following question, "What is the average vehicle trip length on system improvements (i.e., facilities funded by development fees)?"

With 91.8 lane miles of 4-6 lane arterials in Buckeye and a lane capacity standard of 7,500 vehicles per lane per day, the existing development fee network has approximately 688,500 vehicle miles of capacity (i.e., 7,500 vehicles per lane over the entire 91.8 lane miles). To derive the average utilization (i.e., average trip length expressed in miles) of the system improvements, we divide vehicle miles of travel by vehicle trips attracted to development in Buckeye. As shown below, development in Buckeye currently attracts 172,434 average weekday vehicle trips. Dividing 826,000 vehicle miles of capacity by existing average weekday vehicle trips yields an un-weighted average trip length of approximately 3.99 miles. However, the calibration of average trip length includes the same adjustment factors used in the

development fee calculations (i.e., journey-to-work commuting, commercial pass-by adjustment, and average trip length adjustment by type of land use). With these refinements, the weighted-average trip length is 3.76 miles.

At the bottom of Figure S3 are Vehicle Miles of Travel (VMT), which is a measurement unit equal to one vehicle traveling one mile. In the aggregate, VMT is the product of vehicle trips multiplied by the average trip length[1]. Existing infrastructure standards in Buckeye are 1.33 lane miles of 4-6 lane arterials per 10,000 VMT. Also, with 19 improved intersections, the existing infrastructure standard is 0.28 improved intersections per 10,000 VMT. To maintain the existing infrastructure standards, Buckeye would need an additional 95.7 lane miles of arterials and approximately 20 improved intersections over the next ten years.

The Town's Infrastructure Improvements Plan (IIP) for street facilities is more conservative, calling for a total of 16.6 lane miles and 3 improved intersections over the next ten years. Specific projects are listed in Figure S4.

Figure S3 – Ten-Year Travel Demand

Year->	*Base*	*1*	*2*	*3*	*4*	*5*	*10*	*10-Year*
Town of Buckeye	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2023*	*Increase*
Single Units (94%)	19,130	20,287	21,500	22,772	24,105	25,504	36,826	17,696
2+ Units (6%)	1,221	1,295	1,372	1,454	1,539	1,628	2,351	1,130
Industrial KSF	2,480	2,820	3,210	3,640	4,150	4,720	8,070	5,590
Commercial KSF	1,470	1,680	1,910	2,180	2,480	2,830	4,710	3,240
Institutional KSF	2,170	2,350	2,550	2,750	2,980	3,240	4,400	2,230
Office KSF	2,630	2,760	2,900	3,050	3,200	3,380	4,840	2,210
Single Unit Res Trips	116,555	123,605	130,995	138,745	146,867	155,391	224,373	
2+ Units ResTrips	5,197	5,512	5,839	6,188	6,550	6,929	10,006	
Industrial Trips	4,414	5,020	5,714	6,479	7,387	8,402	14,365	
Commercial Trips	20,714	23,673	26,914	30,718	34,946	39,878	66,369	
Institutional Trips	11,049	11,966	12,984	14,003	15,174	16,498	22,404	
Office Trips	14,504	15,221	15,994	16,821	17,648	18,641	26,693	
Total Vehicle Trips	172,434	184,996	198,440	212,955	228,571	245,737	364,209	
Vehicle Miles of Travel (VMT)	687,582	734,575	784,553	838,008	895,072	956,958	1,405,222	717,639
LANE MILES	91.7	97.9	104.6	111.7	119.3	127.6	187.4	95.7
Lane Miles per 10,000 VMT	1.33	1.33	1.33	1.33	1.33	1.33	1.33	
Improved Intersections	19.0	20.3	21.7	23.2	24.7	26.4	38.8	19.8
Signals per 10,000 VMT	0.28	0.28	0.28	0.28	0.28	0.28	0.28	

Infrastructure Improvements Plan for Streets

WCS (engineering and planning consulting firm) worked with Buckeye engineering staff to identify growth-related improvements listed in Figure S4 and mapped in Figure S5. Even though the need for improvements is based on traffic studies and quantitative measures, like volume to capacity ratios, the "need" for improvements is more difficult to determine for streets than for water and sewer systems. The key difference is that water and sewer are closed systems but a street network is an open system.

[1] Typical VMT calculations for development-specific traffic studies, along with most transportation models of an entire urban area, are derived from traffic counts on particular road segments multiplied by the length of that road segment. For the purpose of development fees, VMT calculations are based on attraction (inbound) trips to development located in the service area, with the trip lengths calibrated to the road network considered to be system improvements. This refinement eliminates pass-through or external- external trips, and travel on roads that are not system improvements (e.g. interstate highways).

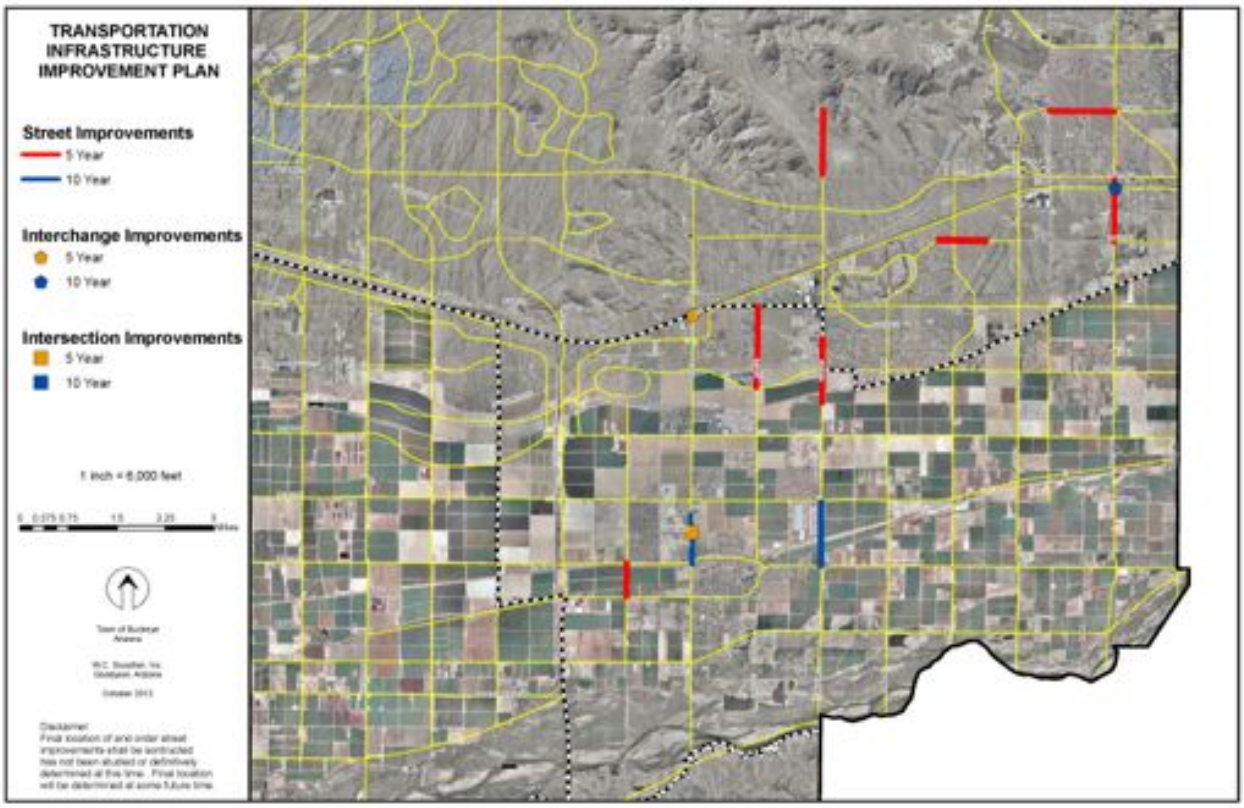
The demand for street capacity can be influenced by development units outside the service area and by what is know as "triple convergence." In essence, this concept acknowledges that transportation capacity is consumed by drivers changing their time, route, and mode of travel, with the latter being more significant in urban areas. Also, "congestion" is a relative and more subjective term that is closely connected with a person's willingness to pay. Given this complexity, the initial list of street improvements embraces the willingness to pay concept and proposes a level of improvements that translates into street fees that are approximately equal to current fees in Goodyear and Buckeye. Using a specific list of improvements enables the community to either add or subtract projects until the perceived need for improvements balances the willingness to pay for infrastructure capacity through development fees. Recommended improvements are located in areas experiencing congestion problems, like the I-10 and Maricopa Highway 85 corridors. As traffic flows from larger travel sheds to these major east-west highways, congestion occurs much like a funnel that tapers to fit into a bottleneck. Therefore, the location of improvements is not based on accurately forecasting the exact location of future development in the larger travel sheds. If a developer is asked to construct a system improvement (i.e. a project on the list) as a condition of development approval, it will be necessary for Buckeye to provide a site-specific credit or reimburse the developer from future fee collections. The Town will continue to require project level improvements, such as turn lanes and signals for ingress/egress and half-street construction of adjacent arterials.

As shown in Figure S4, the IIP for Buckeye includes improvements to three interchanges or intersections and widening arterials to add 16.6 lane miles of capacity. The total ten-year cost of street improvements is $34.7 million, with 90% to be funded by future development fees. The remaining 10%, or $3.5 million will be paid from the existing streets development fee fund balance that has already been collected for interchange improvements.

Figure S4 – Ten-Year IIP for Streets

Roadway Name	*Extent*	*Description*	*Lane Miles*	*Project Cost*	*Growth Share*	*Development Fee Portion*
Jackrabbit Trail	McDowell Road to Van Buren Street	Improve existing roadway to major arterial section	2.0	$7,500,000	90%	$6,750,000
Watson Road	Southern Ave to Baseline Road	2 lane paved roadway including BWCDD Canal Crossing, UPRR Crossing, and the reinforcing of the existing APS effluent line	2.0	$4,500,000	100%	$4,500,000
Rooks Rd		2 lane paved roadway including BWCDD canal crossing, UPRR crossing, and reinforcement of APS effluent line	2.0	$4,500,000	100%	$4,500,000
Watson Road	Durango Street to Broadway Road	Additional north and southbound lanes to increase capacity	3.0	$2,600,000	100%	$2,600,000
Miller Rd & I-10	Interchange Improvements	Interchange Capacity Expansion and Signals	0.0	$5,000,000	51%	$2,550,000
Watson Road	McDowell Road to Thomas Road	2 Lane paved roadway extension to Skyline Regional Park	2.0	$2,000,000	100%	$2,000,000
Apache Road	Yuma Road to Lower Buckeye Road	Half Street Arterial Improvements	2.0	$2,000,000	100%	$2,000,000
Miller Rd & Maricopa Rd	Intersection Improvements	Construct the east leg of the intersection as an extension of Maricopa Road and re-align Alarcon Blvd to intersect Maricopa Rd at 90 degrees	0.0	$3,000,000	90%	$2,700,000
Van Buren Street	220th Lane to 221st Avenue (Vicinity of Dean Road)	2 Lane paved roadway	1.6	$1,600,000	100%	$1,600,000
Thomas Road	Jackrabbit Trail to Tuthill Road	2 Lane paved roadway	2.0	$1,000,000	100%	$1,000,000
Jackrabbit Trail & I-10	Interchange Improvements	Signalize the I-10 and Jackrabbit Trail Interchange	0.0	$1,000,000	100%	$1,000,000
		Total	16.6	$34,700,000	90%	$31,200,000
				Funding from Other Revenue =>		$3,500,000
		Average Cost per Lane Mile =>		$2,090,000		$1,880,000

Figure S5 – Map of Planned Street, Interchange, and Intersection Improvements



Development Fees for Streets

For each development prototype in Buckeye's Land Use Assumptions document, Figure S6 indicates 2013 and 2023 development units (at the top) and the increase in average weekday vehicle miles of travel (in the middle of the table). The service unit index compares VMT by type of land use to the travel demand for a single residential unit. In contrast to the average trip length on existing 4-6 lane arterials, used to document existing infrastructure standards in Buckeye, the table below indicates average miles per trip on planned improvements. With 16.6 additional arterial lane miles and a lane capacity standard of 7,500 vehicles per day, Buckeye will provide 124,500 vehicle miles of capacity. The average utilization of the additional lane miles equates to 0.65 miles of travel on the planned improvements while taking an average weekday vehicle trip to new development in Buckeye.

Current and preliminary fees are shown at the bottom of Figure S6. Preliminary fees are roughly 4-6 times current fees for residential development and an increase of 28-74% for nonresidential development. To derive the streets fee by type of development, multiply its proportionate share factor (based on the ten-year increase in VMT as shown in the right column in the middle section) by the total cost of improvements and divide by the increase in development units. For example, the fee for a single residential unit is 0.6835*$31,254,192/17,696, or $1,207 per unit (truncated).

Figure S6 – Streets Development Fee Schedule

Average Weekday Vehicle Miles of Travel

Development Type (1)	2013 Dev Units (2)	2023 Dev Units (2)	Additional Dev Units 2013-2023
Single Housing Units (94%)	19,130	36,826	17,696
2+ Housing Units (6%)	1,221	2,351	1,130
Industrial KSF	2,480	8,070	5,590
Commercial KSF	1,470	4,710	3,240
Institutional KSF	2,170	4,400	2,230
Office & Other Services KSF	2,630	4,840	2,210
Housing Unit Total	20,351	39,177	18,826
Nonres KSF Total	8,750	22,020	13,270

(1) A single housing unit include detached, attached (townhouse), and mobile home; KSF = square feet of floor area in thousands.
(2) Land Use Assumptions, TischlerBise October 7, 2013.
(3) Trip Generation, Institute of Transportation Engineers, 2012. Retail and institutional include 34% pass-by adjustment.
(4) Buckeye Streets IIP (14.6 lane miles) x 7,500 vehicles per lane per day.

Cost Allocation for Streets

Development Type	Avg Wkdy Veh Trip Ends per Dev Unit (3)	Trip Adj Factors	Trip Length Weighting Factor	Vehicle Miles of Travel per Dev Unit	Service Unit Index	Ten-Year VMT Increase	Proportionate Share by Type of Dev
Single Housing Unit	9.52	64%	121%	4.79	1.00	84,799	68.35%
2+ Units per Structure	6.65	64%	121%	3.35	0.70	3,782	3.05%
Industrial	3.56	50%	73%	0.84	0.18	4,721	3.81%
Commercial	42.70	33%	66%	6.05	1.26	19,586	15.79%
Institutional	15.43	33%	73%	2.42	0.50	5,388	4.34%
Office & Other Services	11.03	50%	73%	2.62	0.55	5,783	4.66%
					TOTAL	124,060	100.0%
					Vehicle Miles of Capacity (4) =>	124,500	
					average miles per trip on planned improvements =>	0.65	

Streets Development Fee Schedule

Development Type	Current Fees	Proposed Fees	$ Change	% Change
Single Housing Unit	$246	$1,207	$961	391%
2+ Units per Structure	$124	$843	$719	580%
Industrial	$165	$212	$47	28%
Commercial	$976	$1,522	$546	56%
Institutional	$379	$608	$229	60%
Office & Other Services	$379	$659	$280	74%
	Professional Services =>	$54,192		
	Lane Miles =>	$31,200,000		
Total Ten-Year Improvements Plan =>		$31,254,192		

Projected Revenue from Street Fees

The revenue projection shown below assumes implementation of the preliminary street fees and that development over the next ten years is consistent with the land use assumptions described in Appendix C. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the impact fee revenue. The street fee revenue projection in Figure S7, approximately $31.2 million over ten years, matches the cost of planned system improvements to be funded with development fees.

Figure S7 – Projected Street Fee Revenue

		Single Unit	*2+ Units*	*Industrial*	*Commercial*	*Institutional*	*Office & Other Services*
		$1,207 per housing unit	$843 per housing unit	$212 per 1000 Sq Ft	$1,522 per 1000 Sq Ft	$608 per 1000 Sq Ft	$659 per 1000 Sq Ft
	Year	*Hsg Units*	*Hsg Units*	*Sq Ft x 1000*	*Sq Ft x 1000*	*Sq Ft x 1000*	*Sq Ft x 1000*
Base	2013	19,130	1,221	2,480	1,470	2,170	2,630
Year 1	2014	20,287	1,295	2,820	1,680	2,350	2,760
Year 2	2015	21,500	1,372	3,210	1,910	2,550	2,900
Year 3	2016	22,772	1,454	3,640	2,180	2,750	3,050
Year 4	2017	24,105	1,539	4,150	2,480	2,980	3,200
Year 5	2018	25,504	1,628	4,720	2,830	3,240	3,380
Year 6	2019	26,971	1,722	5,370	3,230	3,510	3,550
Year 7	2020	28,510	1,820	6,130	3,660	3,830	3,730
Year 8	2021	31,282	1,997	6,780	4,010	4,020	4,100
Year 9	2022	34,054	2,174	7,430	4,360	4,220	4,480
Year 10	2023	36,826	2,351	8,070	4,710	4,400	4,840
Ten-Yr Increase		17,696	1,130	5,590	3,240	2,230	2,210
Fee Revenue =>		$21,359,000	$953,000	$1,185,000	$4,931,000	$1,356,000	$1,456,000
						Total Streets Fee Revenue =>	$31,240,000

POLICE FACILITIES

ARS 9-463.05.T.7(f) defines the police facilities eligible for development fee funding.

> *"Police facilities, including all appurtenances, equipment and vehicles. Police facilities do not include a facility or portion of a facility that is used to replace services that were once provided elsewhere in the municipality, vehicles and equipment used to provide administrative services, helicopters or airplanes or a facility that is used for training officers from more than one station or substation."*

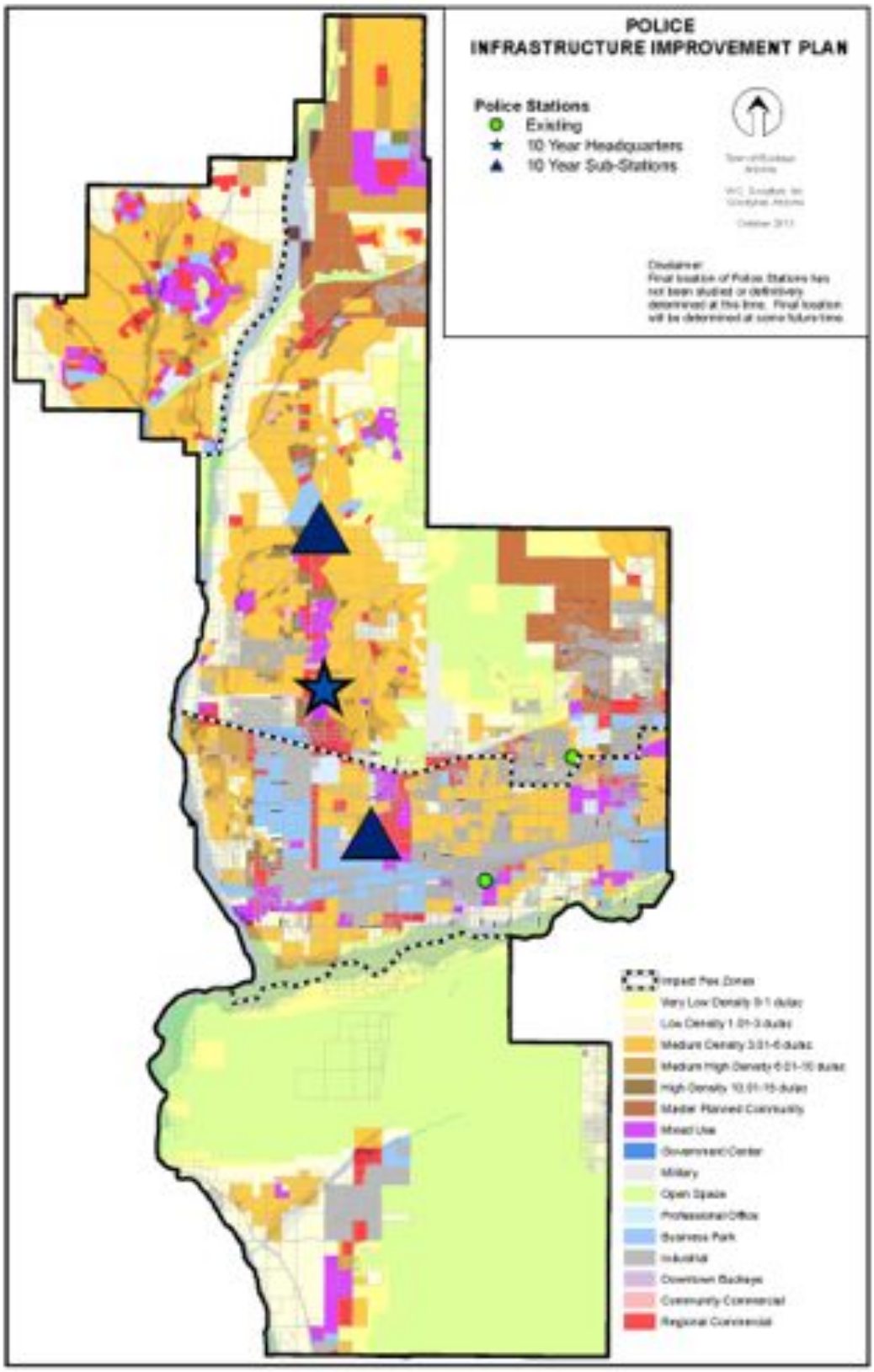
The Town of Buckeye will use an incremental expansion cost methodology to maintain the current infrastructure standards for police buildings, vehicles, and equipment.

Police Service Area

As documented below, Buckeye has several police buildings generally located in the central area between I-10 and the Gila River. To hasten response times, officers are dispersed throughout town and routinely patrol all developed areas. Over the next five years, the service area for police development fees includes the north, central, and south demographic areas, discussed further in the Land Use Assumptions (see Appendix C). Given the expectation that no development will occur in the northwest demographic area over the next five years, it is excluded from the police service area.

The map below (see Figure P1) indicates the general location of existing and planned police facilities to be constructed over the next ten years.

Figure P1 – Map of Police Facilities



Proportionate Share

ARS 9-463.05.B.3 states the development fee shall not exceed a proportionate share of the cost of necessary public services needed to serve new development. In Buckeye, public safety (i.e. police and fire) infrastructure standards, projected needs, and development fees are based on both residential and nonresidential development. As shown in Figure P2, functional population was used to allocate police infrastructure and costs to residential and nonresidential development. Functional population is similar to what the U.S. Census Bureau calls "daytime population" by accounting for people living and working in a jurisdiction. Residents that don't work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents that work in Buckeye are assigned 14 hours to residential development and 10 hours to nonresidential development. Residents that work outside Buckeye are assigned 14 hours to residential development. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2011 functional population data for Buckeye, the cost allocation for residential development is 82% while nonresidential development accounts for 18% of the demand for public safety infrastructure.

Figure P2 – Functional Population

		Demand Units in 2011		*Demand Hours/Day*	*Person Hours*
Residential					
	Population*	52,334			
67%	Residents Not Working	35,044		20	700,880
33%	Resident Workers**	17,290			
8%	Worked in City**		1,377	14	19,278
92%	Worked Outside City**		15,913	14	222,782
				Residential Subtotal	942,940
				Residential Share =>	**82%**
Nonresidential					
	Non-working Residents	35,044		4	140,176
	Jobs Located in City**	6,130			
	Residents Working in City**		1,377	10	13,770
	Non-Resident Workers (inflow commuters)		4,753	10	47,530
				Nonresidential Subtotal	201,476
				Nonresidential Share =>	**18%**
				TOTAL	1,144,416

** July 1, 2011 estimate from AZ Dept of Economic Security.*
*** Inflow/Outflow Analysis, OnTheMap web application, U.S. Census Bureau data for all jobs in 2011.*

Existing Police Facilities

As specified in ARS 9-463.05.B.4 police development fees in Buckeye are based on the same level of service provided to existing development. Figure P3 inventories police buildings in Buckeye. The

Sundance Crossing building is currently undergoing tenant improvements and will be operational by the time updated development fees become effective. Because some of the buildings include other functions, floor areas were reduced to indicate the portion of each building used by Buckeye police. The entire 38,000 square feet of police building space is needed to serve existing development (i.e. there is no surplus capacity) requiring additional police building space to accommodate new development.

Figure P3 – Buckeye Police Buildings

Police Buildings	*Square Feet*
Headquarters (police share of 100 N Apache)	9,700
Sundance Crossings (police share @ Yuma & Dean)	15,400
Criminal Investigations (police share of 1101 E Ash)	4,600
Annex and Training Facility (90 N Apache)	8,300
Total Floor Area	38,000

Development fees will be used to expand the fleet of police vehicles and purchase additional equipment that has a useful life of at least three years. Figure P4 lists police vehicles and equipment used by Buckeye's Police Department during FY13-14. Items are ranked ordered by total cost (from most to least). Buckeye's share of capital expenditures on the Regional Wireless Cooperative is the largest cost item. Various types of vehicles account for most of the line items. In FY13-14, Buckeye has 154 vehicles and equipment items, with a capital cost of approximately $9.85 million, which is a weighted average cost of approximately $63,900 per item.

Figure P4 – Buckeye Police Vehicles and Equipment

Police Vehicle and Equipment Inventory

Description	*Items*	*Unit Cost*	*Total Cost*
Regional Wireless Cooperative (Buckeye share of capital)	1	$4,375,800	$4,375,800
Patrol Vehicles (includes 10 additions in FY13-14)	37	$60,000	$2,220,000
Equipment per Sworn Officer (communications, weapons, etc.)	80	$15,000	$1,200,000
Lieutenants and Sergeant Vehicles	12	$60,000	$720,000
Unmarked Vehicles (Chiefs and Detectives)	13	$47,000	$611,000
2010 Ford Bearcat SWAT Vehicle	1	$250,000	$250,000
Geobase Mapping System	1	$180,300	$180,300
Dispatch Console	1	$74,600	$74,600
DIMS Digital Station Kiosk	1	$42,900	$42,900
Night vision equipment	1	$41,800	$41,800
Motorcycles	2	$20,900	$41,800
Automated Fingerprint System	1	$38,600	$38,600
License Plate Recognition System	1	$20,600	$20,600
Contraband Inspection Camera	1	$17,200	$17,200
CISCO Phone System	1	$11,900	$11,900
Total	154		$9,846,500
Weighted Average Unit Cost =>		$63,900	

Police Service Units and Infrastructure Standards

For residential development, Buckeye will use peak population within the Town to derive current police infrastructure standards. For nonresidential development, Buckeye will use inbound, average-weekday, vehicle trips as the service unit. Figure P5 indicates the allocation of police building space to residential and nonresidential development, along with 2013 service units in Buckeye. Vehicle trips to nonresidential development are based on floor area estimates for industrial, commercial, and office/other development, as documented in the Land Use Assumptions (see Appendix C). Also, trip generation rates are discussed further in the Streets Facilities section of this report.

For police development fees, Buckeye will continue to use the 2009 cost factor of $345 per square foot. The recommended cost factor includes design, land, and site costs. In comparison, Buckeye purchased the Sundance Crossing building for approximately $2.5 million and is spending an additional $4.65 million on tenant improvements. This very cost-effective acquisition underestimates the likely capital cost of a future police building.

Buckeye has provided 0.48 square feet of police building for each Town resident. To maintain the current infrastructure standard for police buildings, Buckeye needs to spend $169.59 for each additional resident. For nonresidential development, Buckeye has provided 0.13 square feet of police building per inbound vehicle trip to nonresidential development during an average weekday. To maintain the current infrastructure standard, Buckeye must spend $47.23 per additional vehicle trip to nonresidential development.

Figure P5 – Standards for Police Buildings

Allocation Factors for Police Buildings

Total Sq Ft of Police Buildings	38,000
Cost per Square Foot of Building	$345
Residential Proportionate Share	82%
Nonresidential Proportionate Share	18%
Town Peak Population in 2013	64,306
Average Weekday Vehicle Trips to Nonresidential Development in 2013	50,682

Infrastructure Standards for Police Buildings

	Square Feet	*Capital Cost per Service Unit*
Residential (per person)	0.48	$167.17
Nonresidential (per vehicle trip)	0.13	$46.56

Following the same methodology used for police buildings, the total count of police vehicles and equipment (154 items), with an average cost of $63,900 per item, was allocated to residential and nonresidential development in Buckeye. As shown in Figure P6, every 1,000 persons will require Buckeye to purchase 2.0 additional police vehicles or equipment items. To maintain the current infrastructure standard for police vehicles and equipment, each additional Town resident equates to a capital cost of $125.48, with each additional vehicle trip to nonresidential development representing a capital cost of $34.94.

Figure P6 – Standards for Police Vehicles and Equipment

Allocation Factors for Police Vehicles and Equipment

Total Police Vehicles and Equipment (items)	154
Average Cost per Item	$63,900
Residential Proportionate Share	82%
Nonresidential Proportionate Share	18%
Town Peak Population in 2013	64,306
Average Weekday Vehicle Trips to Nonresidential Development in 2013	50,682

Infrastructure Standards for Police Vehicles and Equipment

	Vehicles and Equipment	*Capital Cost per Service Unit*
Residential (per person)	0.0020	$125.48
Nonresidential (per vehicle trip)	0.0005	$34.94

Police Infrastructure Needs Analysis

Arizona's development fee enabling legislation requires jurisdictions to convert land use assumptions in service units and the corresponding need for additional infrastructure over the next ten years. As shown in Figure P7, projected population and nonresidential vehicle trips drive the need for police buildings and vehicles. To maintain current standards, Buckeye will need approximately 39,500 additional square feet of police buildings. The ten-year, growth-related capital cost of police buildings is approximately $13.63 million. The projected capital expenditure on additional police vehicles or equipment items is $10.22 million over the next ten years. In combination, Buckeye anticipates capital costs of approximately $23.85 million per for growth-related police infrastructure over the next ten years. The Town will likely construct a police headquarters building, in conjunction with a communications tower, north of I-10 in the general area of State Route 85. Also, three police substations will be co-located with fire stations. These substations will be in north and central Buckeye.

Figure P7 – Police Facilities Needed to Accommodate Growth

Infrastructure Standards and Capital Costs for Police Facilities

Police Buildings - Residential	0.48	per person
Police Buildings - Nonresidential	0.13	per vehicle trip
Police Building Cost	$345	per Sq Ft
Police Vehicles &Equipment - Residential	0.0020	Sq Ft per person
Police Vehicles & Equipment - Nonresidential	0.0005	Sq Ft per vehicle trip
Police Vehicles & Equipment Cost	$63,900	per item

Police Infrastructure Needs

	Year	*Town of Buckeye Peak Population*	*Town of Buckeye Nonres Veh Trips*	*Police Bldg Sq Ft*	*Police Veh & Equip Items*
Base	2013	64,306	50,682	38,000	154
Year 1	2014	68,200	55,880	40,588	164
Year 2	2015	72,279	61,605	43,338	176
Year 3	2016	76,554	68,021	46,275	188
Year 4	2017	81,035	75,155	49,409	200
Year 5	2018	85,737	83,418	52,803	214
Year 6	2019	90,670	92,523	56,422	229
Year 7	2020	95,845	102,557	60,283	244
Year 8	2021	105,161	111,654	66,025	268
Year 9	2022	114,480	120,857	71,783	291
Year 10	2023	123,796	129,830	77,508	314
Ten-Yr Increase		59,490	79,148	39,508	160
			Cost of Police Buildings =>	$13,630,000	
				Cost of Police Vehicles & Equipment =>	$10,224,000
				Total Projected Expenditures =>	$23,854,000

Police Development Fees

Infrastructure standards and cost factors for police are summarized in the upper portion of Figure P8. The conversion of infrastructure needs and costs per service unit into a cost per development unit is also shown in the table below. For residential development, average number of persons in an occupied dwelling (also known as a household in census terminology) provides the necessary conversion. Persons per household, by type of residential structure, are from the Town's adopted design guidelines for water and sewer facilities. For nonresidential development, trip generation rates by type of development are from the Institute of Transportation Engineers (ITE 2012). To ensure the analysis is based on travel demand associated with nonresidential development within Buckeye, trip ends (entering and exiting) are converted to inbound trips using trip adjustment factors. For industrial and office/other development, a basic adjustment of 50% is applied. Because commercial development attracts "pass-by" trips, the adjustment factor for commercial is only 33%, based on the average pass-by factor for shopping centers (ITE 2012).

Updated development fees for police facilities are shown in the column with blue shading. Residential fees increase $422 per single dwelling unit and $345 per dwelling unit in a structure with two or more residential unit. Preliminary fees increase for commercial development and decrease for industrial and office/other nonresidential development.

As discussed further in Appendix A, Arizona's enabling legislation requires municipalities to forecast the revenue contribution to be made in the future towards capital costs and shall include these contributions in determining the extent of burden imposed by development. TischlerBise included a 1% reduction as a placeholder that will be further evaluated in the next draft of the development fee study.

Figure P8 – Police Service Units and Fees per Development Unit

Infrastructure Standards for Police	*Police Buildings*	*Vehicle and Equipment Cost*	*Professional Services*	*Required Offset*	*Net Cost*
Residential (per person)	$167.17	$125.48	1.03	1%	$290
Nonresidential (per inbound, average-weekday, vehicle trip)	$46.56	$34.94	0.14	1%	$80

Residential (per housing unit)

Unit Type	*Persons per Household*	*Police Fee*	*Current Fee*	*Increase / (Decrease)*
Single Unit	3.2	$928	$506	$422
2+ Units per Structure	2.5	$725	$380	$345

Nonresidential (per thousand sq ft of floor area)

ITE Code	*Type*	*Demand Unit*	*Weekday Vehicle Trip Ends*	*Trip Rate Adjustment Factors*	*Police Fee*	*Current Fee*	*Increase / (Decrease)*
150	Industrial	1000 SF	3.56	50%	$142	$415	($273)
820	Commercial	1000 SF	42.70	33%	$1,127	$592	$535
520	Institutional	1000 SF	15.43	33%	$407	$592	($185)
710	Office/Other Services	1000 SF	11.03	50%	$441	$592	($151)

Projected Revenue from Police Fees

Development fee revenue should match the need for growth-related infrastructure, which has a ten-year total cost of approximately $23.85 million (see Figure P6 above). Figure P9 indicates Buckeye should receive approximately $23.64 million in police development fee revenue, if actual development matches the land use assumptions documented in Appendix C. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the need for infrastructure and development fee revenue.

Figure P9 – Projected Police Development Fee Revenue

Police Development Fee Revenue

		Single Unit $928 per housing unit	*2+ Units* $725 per housing unit	*Industrial* $142 per 1000 Sq Ft	*Commercial* $1,127 per 1000 Sq Ft	*Office/Other* $441 per 1000 Sq Ft
	Year	*Hsg Units*	*Hsg Units*	*KSF*	*KSF*	*KSF*
Base	2013	19,130	1,221	2,480	1,470	4,800
Year 1	2014	20,287	1,295	2,820	1,680	5,110
Year 2	2015	21,500	1,372	3,210	1,910	5,450
Year 3	2016	22,772	1,454	3,640	2,180	5,800
Year 4	2017	24,105	1,539	4,150	2,480	6,180
Year 5	2018	25,504	1,628	4,720	2,830	6,620
Year 6	2019	26,971	1,722	5,370	3,230	7,060
Year 7	2020	28,510	1,820	6,130	3,660	7,560
Year 8	2021	31,282	1,997	6,780	4,010	8,120
Year 9	2022	34,054	2,174	7,430	4,360	8,700
Year 10	2023	36,826	2,351	8,070	4,710	9,240
Ten-Yr Increase		17,696	1,130	5,590	3,240	4,440
Projected Fees =>		$16,422,000	$819,000	$794,000	$3,651,000	$1,958,000

Total Projected Revenue => $23,644,000

FIRE FACILITIES

ARS 9-463.05.T.7(f) defines the fire facilities eligible for development fee funding.

> *"Fire facilities, including all appurtenances, equipment and vehicles. Fire facilities do not include a facility or portion of a facility that is used to replace services that were once provided elsewhere in the municipality, vehicles and equipment used to provide administrative services, helicopters or airplanes or a facility that is used for training officers from more than one station or substation."*

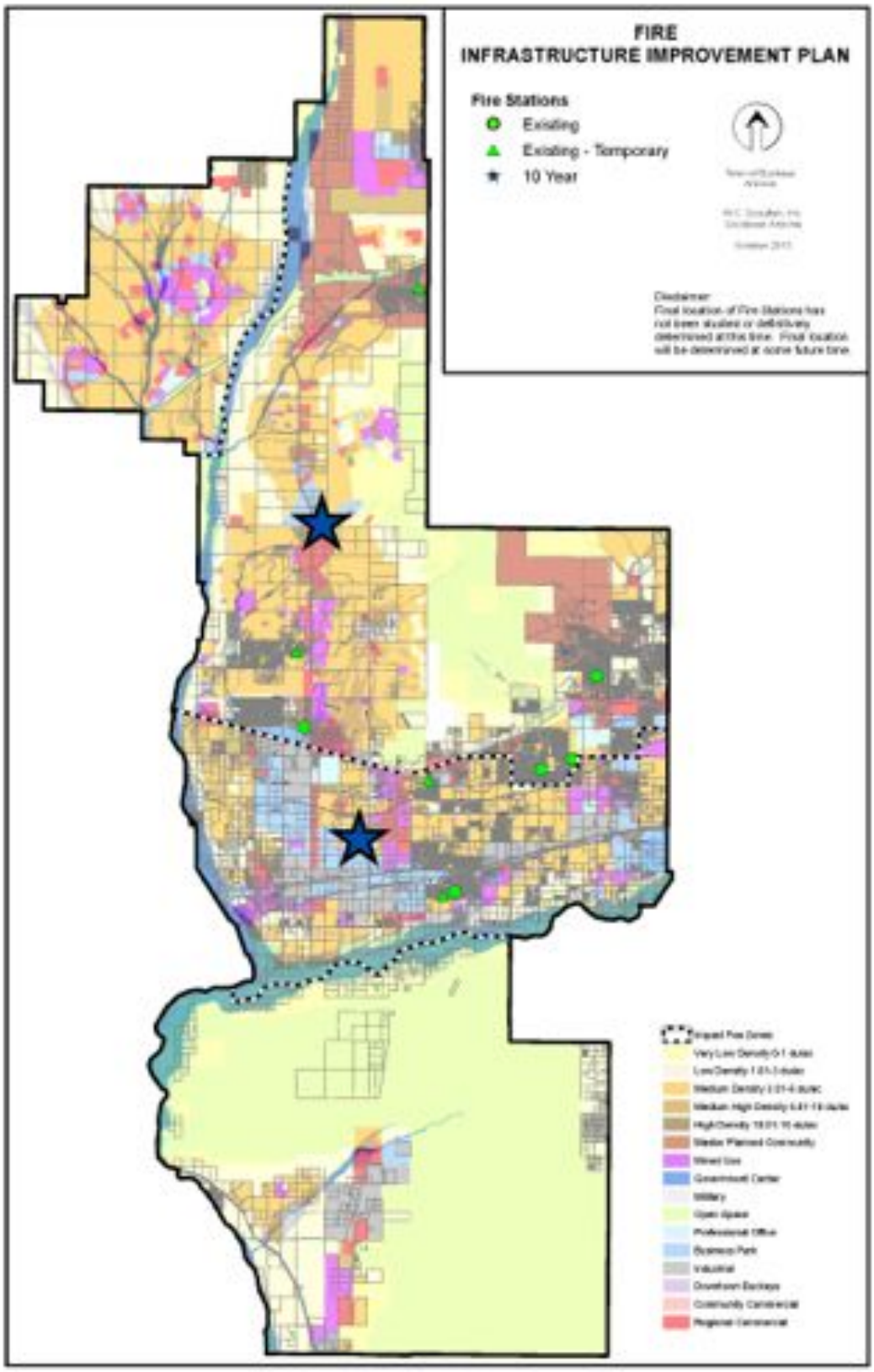
The Town of Buckeye will use an incremental expansion cost methodology to maintain the current infrastructure standards for fire buildings, vehicles, and equipment.

Fire Service Area

As shown in Figure F1, Buckeye has six existing fire stations generally located in the central and northern demographic areas. To hasten response times, fire and emergency medical response teams are dispatched from nearby stations, with multiple stations responding if warranted. Thus all developed areas within the Town of Buckeye are served by an integrated public safety system.

Over the next five years, the Town of Buckeye service area for fire development fees includes the north, central, and south demographic areas, as discussed further in the Land Use Assumptions (see Appendix C). Given the expectation that no development will occur in the northwest demographic area over the next five years, it is excluded from the fire service area.

Figure F1 – Map of Fire Station Locations



Proportionate Share

ARS 9-463.05.B.3 states the development fee shall not exceed a proportionate share of the cost of necessary public services needed to serve new development. In Buckeye, public safety (i.e. police and fire) infrastructure standards, projected needs, and development fees are based on both residential and nonresidential development. As shown in Figure F2, functional population was used to allocate fire infrastructure and costs to residential and nonresidential development. Functional population is similar to what the U.S. Census Bureau calls "daytime population" by accounting for people living and working in a jurisdiction. Residents that don't work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents that work in Buckeye are assigned 14 hours to residential development and 10 hours to nonresidential development. Residents that work outside Buckeye are assigned 14 hours to residential development. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2011 functional population data for Buckeye, the cost allocation for residential development is 82% while nonresidential development accounts for 18% of the demand for public safety infrastructure.

Figure F2 – Functional Population

		Demand Units in 2011		*Demand Hours/Day*	*Person Hours*
Residential					
	Population*	52,334			
67%	Residents Not Working	35,044		20	700,880
33%	Resident Workers**	17,290			
8%	Worked in City**		1,377	14	19,278
92%	Worked Outside City**		15,913	14	222,782
			Residential Subtotal		942,940
			Residential Share =>		**82%**
Nonresidential					
	Non-working Residents	35,044		4	140,176
	Jobs Located in City**	6,130			
	Residents Working in City**		1,377	10	13,770
	Non-Resident Workers (inflow commuters)		4,753	10	47,530
			Nonresidential Subtotal		201,476
			Nonresidential Share =>		**18%**
			TOTAL		1,144,416

** July 1, 2011 estimate from AZ Dept of Economic Security.*
*** Inflow/Outflow Analysis, OnTheMap web application, U.S. Census Bureau data for all jobs in 2011.*

Existing Fire Facilities

As specified in ARS 9-463.05.B.4 fire development fees in Buckeye are based on the same level of service provided to existing development. Figure F3 inventories fire buildings in Buckeye. The Sundance Crossing building is currently undergoing tenant improvements and will be operational about the same

time updated development fees become effective. Fire buildings are ranked from largest to smallest, with the expectation that the three small stations will be expanded in the future. However, fire development fees will only be used to pay for additional floor area and will not pay for replacement of the existing floor area.

Figure F3 – Buckeye Fire Buildings

Fire Buildings	*Square Feet*
Verrado Station 3	15,500
Sundance Station 2	12,200
Downtown Station 1	8,000
Sundance Crossings (fire share @ Yuma & Dean)	4,700
Sun City Festival Station 4	1,800
Tartesso Station 5	1,800
West Park Station 6	1,800
TOTAL	45,800

Development fees will be used to expand the fleet of fire vehicles and purchase additional equipment that has a useful life of at least three years. Figure F4 lists fire vehicles and equipment currently used by the Buckeye Fire Department. Items are ranked ordered by total cost (from most to least). Expensive fire apparatus accounts for most of the total cost. In FY13-14, Buckeye has 25 vehicles and equipment items, with a capital cost of approximately $10.06 million, which is a weighted average cost of approximately $402,400 per item.

Figure F4 – Buckeye Fire Vehicles and Equipment

Type	*Count*	*Unit Cost*	*Total Cost*
Pumpers	8	$725,000	$5,800,000
Ladder Trucks	2	$1,300,000	$2,600,000
Haz Mat Truck	1	$540,000	$540,000
Driver Training Simulator	1	$341,100	$341,100
Small Pickup Trucks	8	$36,200	$289,600
Brush Trucks	2	$140,000	$280,000
Air and Light Trailer	1	$82,000	$82,000
Radio Equipment for Fire Department	1	$68,000	$68,000
Heavy Duty Pickup Truck	1	$58,600	$58,600
TOTAL	25		$10,059,300
Weighted Average Unit Cost =>		$402,400	

Fire Service Units and Infrastructure Standards

For residential development, Buckeye will use the Town's peak population to derive current fire infrastructure standards. For nonresidential development, Buckeye will use jobs as the service unit. Figure F5 indicates the allocation of fire building space to residential and nonresidential development, along with 2013 service units. According to the Fire Department, future fire stations are estimated to cost $365 per square foot of building. This is a total project cost factor that includes land, site costs, design, and furniture.

Buckeye has provided 0.58 square feet of fire building for each person in the Town. To maintain the current infrastructure standard for fire buildings, Buckeye needs to spend $213.16 for each additional resident. For nonresidential development, Buckeye has provided 0.51 square feet of fire building per job. To maintain the current infrastructure standard for fire buildings, Buckeye must spend $186.33 for each additional job.

Figure F5 – Standards for Fire Buildings

Allocation and Cost Factors

Total Sq Ft of Fire Buildings	45,800
Cost per Square Foot	$365
Residential Proportionate Share	82%
Nonresidential Proportionate Share	18%
Town of Buckeye Peak Population in 2013	64,306
Town of Buckeye Jobs in 2013	16,149

Infrastructure Standards for Fire Buildings

	Square Feet	*Capital Cost per Service Unit*
Residential (per person)	0.58	$213.16
Nonresidential (per job)	0.51	$186.33

Following the same methodology used for fire buildings, the total count of fire vehicles and equipment (25 items), with an average cost of $402,400 per item, was allocated to residential and nonresidential development in Buckeye. As shown in Figure F6, every 10,000 persons will require Buckeye to purchase three additional fire vehicles or equipment items. To maintain the current infrastructure standard for fire vehicles and equipment, each additional resident equates to a capital cost of $128.28. Every 10,000 jobs require three additional fire vehicles or equipment items. For nonresidential development, the fire vehicle and equipment capital cost is $112.13 per job.

Figure F6 – Standards for Fire Vehicles and Equipment

Allocation Factors for Fire Vehicles and Equipment

Total Fire Vehicles and Equipment (items)	25
Average Cost per Vehicle	$402,400
Residential Proportionate Share	82%
Nonresidential Proportionate Share	18%
Town of Buckeye Peak Population in 2013	64,306
Town of Buckeye Jobs in 2013	16,149

Infrastructure Standards for Fire Vehicles and Equipment

	Vehicles	*Vehicle and Equipment Cost*
Residential (per person)	0.0003	$128.28
Nonresidential (per job)	0.0003	$112.13

Fire Infrastructure Needs and Improvements Plan

Arizona's development fee enabling legislation requires jurisdictions to convert land use assumptions into service units and the corresponding need for additional infrastructure over the next ten years. As shown in Figure F7, projected population and jobs drive the needs analysis for fire buildings and vehicles. To maintain current standards, Buckeye will need approximately 45,552 additional square feet of fire buildings, plus 25 fire vehicles or equipment items. The ten-year, growth-related capital cost of fire buildings is approximately $16.63 million. The projected capital expenditure on additional fire vehicles or equipment items is $10.06 million over the next ten years. In combination, Buckeye anticipates capital costs of approximately $26.69 million for the growth-related fire infrastructure over the next ten years.

Over the next ten year, the Town of Buckeye could potentially open three to five fire stations. The Town has standard prototype designs for both three bay (13,000 square feet) and four bay (17,000 square feet) stations. All fire stations will have office space for police officers. Future stations will either replace existing temporary stations, or be located at new sites, as needed to provide adequate response time to development within the north and central areas of Buckeye. When a temporary station is replaced, development fees will only pay for the additional building space. In other words, the growth share to replace 1,800 square feet with a three-bay station would be 86%, and 89% of a four-bay station.

Figure F7 – Fire Facilities Needed to Accommodate Growth

Fire Infrastructure Standards and Capital Costs

Fire Stations - Residential	0.58	Sq Ft per person
Fire Stations - Nonresidential	0.51	Sq Ft per job
Fire Stations Cost	$365	per square foot
Fire Vehicles and Equipment - Residential	0.0003	per person
Fire Vehicles and Equipment - Nonresidential	0.0003	per job
Fire Vehicles and Equipment Cost	$402,400	average per item

Fire Infrastructure Needed

	Year	*Town of Buckeye Peak Population*	*Town of Buckeye Jobs*	*Sq Ft of Fire Buildings*	*Fire Vehicles and Equipment*
Base	2013	64,306	16,149	45,800	25
Year 1	2014	68,200	17,486	48,757	27
Year 2	2015	72,279	18,964	51,893	28
Year 3	2016	76,554	20,600	55,225	30
Year 4	2017	81,035	22,414	58,768	32
Year 5	2018	85,737	24,430	62,544	34
Year 6	2019	90,670	26,675	66,571	36
Year 7	2020	95,845	29,183	70,873	39
Year 8	2021	105,161	31,896	77,699	42
Year 9	2022	114,480	34,609	84,527	46
Year 10	2023	123,796	37,323	91,352	50
Ten-Yr Increase		59,490	21,174	45,552	25
			Cost of Fire Stations =>	$16,626,000	
				Cost of Fire Apparatus =>	$10,060,000
			Total Projected Expenditures (in millions) =>		$26.69

Fire Development Fees

Infrastructure standards and cost factors for fire are summarized in the upper portion of Figure F8. The conversion of infrastructure needs and costs per service unit into a cost per development unit is also shown in the table below. For residential development, average number of persons in an occupied dwelling (also known as a household) provides the necessary conversion. Persons per household, by type of residential structure, are from the Town's adopted design guidelines for water and sewer facilities. For nonresidential development, average jobs (per thousand square feet of floor area) are derived from trip generation rates by type of development, published by the Institute of Transportation Engineers (ITE 2012). Additional details on nonresidential prototypes are provided in Appendix C (see Figure C10 and related text).

Updated development fees for fire facilities are shown in the column with light orange shading. Preliminary fire development fees are approximately equal to current fees for residential development and less than current fees for nonresidential development types.

Figure F8 – Fire Service Units and Fees per Development Unit

Infrastructure Standards for Fire	*Building Cost*	*Vehicle and Equipment Cost*	*Professional Services*	*Required Offset*	*Net Cost*
Residential (per person)	$213.16	$128.28	$1.03	1%	$339.04
Nonresidential (per job)	$186.33	$112.13	$0.58	1%	$296.04

Residential (per housing unit)	*Unit Type*	*Persons per Household*	*Preliminary Fire Fee*	*Current Fee*	*Increase / (Decrease)*
	Single Unit	3.20	$1,084	$1,178	($94)
	2+ Units per Structure	2.50	$847	$884	($37)

Nonresidential (per thousand sq ft of floor area)

ITE Code	*Type*	*Development Unit*	*Jobs per Dev Unit**	*Preliminary Fire Fee*	*Current Fee*	*Increase / (Decrease)*
150	Industrial	1000 SF	0.91	$269	$965	($696)
820	Commercial	1000 SF	2.00	$592	$1,378	($786)
520	Institutional	1000 SF	1.00	$296	$1,378	($1,082)
710	Office/Other Services	1000 SF	3.33	$985	$1,378	($393)

** Jobs per development unit from Buckeye Land Use Assumptions, see Figure C10 and related text in Appendix C.*

Projected Revenue from Fire Fees

Development fee revenue should match the need for growth-related infrastructure, which has a ten-year total cost of approximately $26.7 million (see Figure F7 above). Figure F9 indicates Buckeye should receive approximately $26.6 million in fire development fee revenue, if actual development matches the land use assumptions documented in Appendix C. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the need for infrastructure and development fee revenue.

Figure F9 – Projected Fire Development Fee Revenue

Fire Development Fee Revenue

		Single Unit	*2+ Units*	*Industrial*	*Commercial*	*Office & Other Services*
		$1,085 per housing unit	$848 per housing unit	$271 per 1000 Sq Ft	$591 per 1000 Sq Ft	$673 per 1000 Sq Ft
	Year	*Hsg Units*	*Hsg Units*	*KSF*	*KSF*	*KSF*
Base	2013	19,130	1,221	2,480	1,470	4,800
Year 1	2014	20,287	1,295	2,820	1,680	5,110
Year 2	2015	21,500	1,372	3,210	1,910	5,450
Year 3	2016	22,772	1,454	3,640	2,180	5,800
Year 4	2017	24,105	1,539	4,150	2,480	6,180
Year 5	2018	25,504	1,628	4,720	2,830	6,620
Year 6	2019	26,971	1,722	5,370	3,230	7,060
Year 7	2020	28,510	1,820	6,130	3,660	7,560
Year 8	2021	31,282	1,997	6,780	4,010	8,120
Year 9	2022	34,054	2,174	7,430	4,360	8,700
Year 10	2023	36,826	2,351	8,070	4,710	9,240
Ten-Yr Increase		17,696	1,130	5,590	3,240	4,440
Projected Fees =>		$19,200,000	$958,000	$1,515,000	$1,915,000	$2,988,000

Total Projected Revenues (in millions) =>	$26.58

WATER FACILITIES

ARS 9-463.05 (T)(7)(f) defines the facilities and assets which can be included in the Water Facilities IIP:

> *"Water facilities, including the supply, transportation, treatment, purification and distribution of water, and any appurtenances for those facilities."*

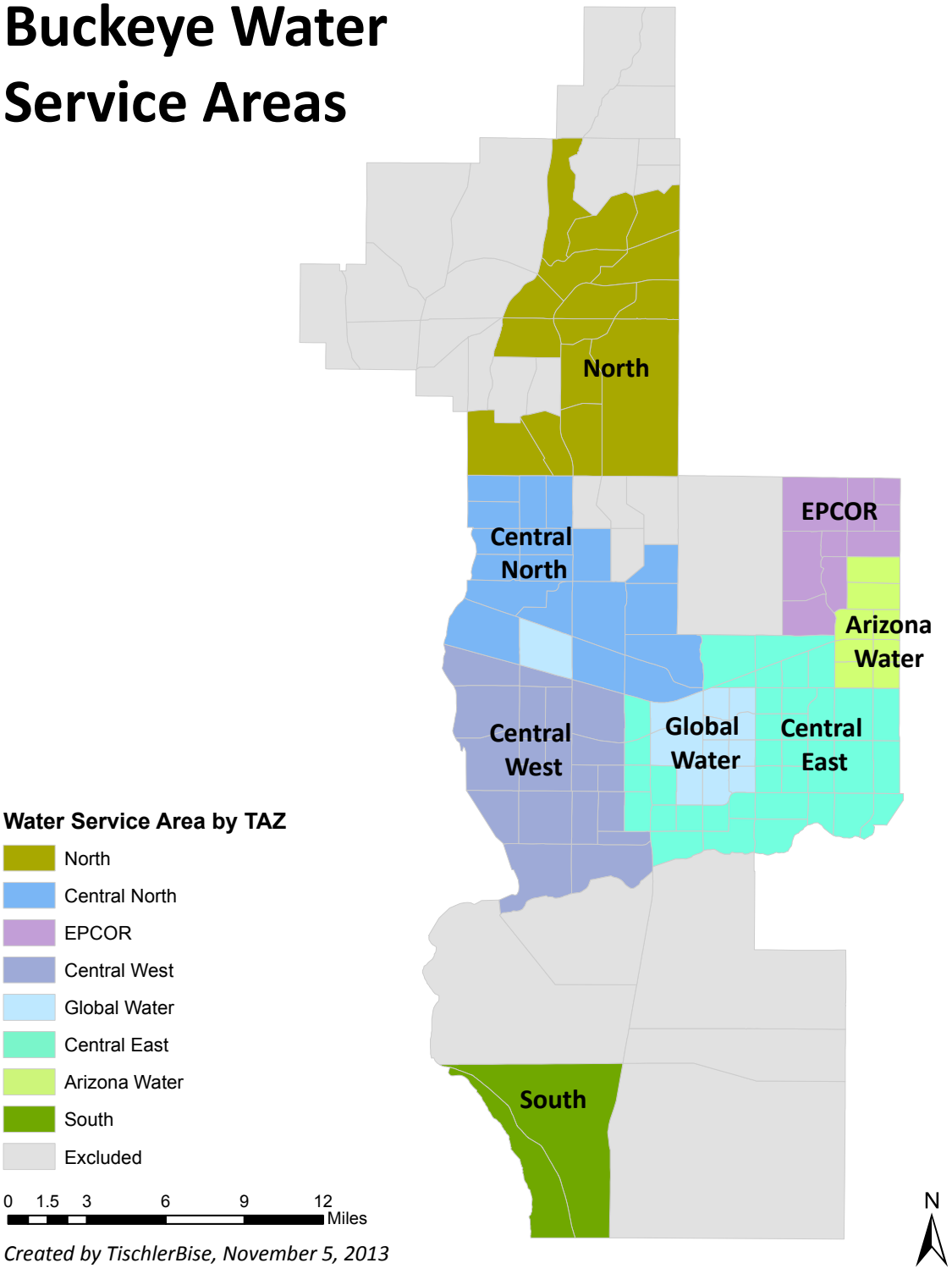
The Water Facilities IIP includes planned improvements for storage, booster pumps, wells, groundwater treatment, water resources, and major water lines. WCS prepared the water facilities IIP.

Water Service Area and Service Units

Average daily demand, in gallons of potable water, is the service unit for water development fees. All developed areas of Buckeye receive potable water from the Town or private water companies. Areas served by private companies are outside the Town's service area and are shown as "excluded" on the map. The remainder of the area shown as "excluded" is not expected to have any significant development over the next five years. Utility service area maps are based on Traffic Analysis Zone (TAZ) boundaries, which is the unit of analysis for socioeconomic data. TAZ boundaries are not identical to the legal descriptions of utility service areas, which will be used to determine the service provider for a specific development.

Current utility development fees for water in Buckeye are imposed in three "Zones." Due to changes in Arizona's enabling legislation, TischlerBise recommends five "service areas" as mapped in Figure W1. The major change from the current fees is splitting Zone 3 into separate service areas. North of Northern Avenue is now referred to as the "North" service area. South of Northern Avenue to I-10, and generally west of the White Tank Mountains, is now referred to as "Central North." The master planned communities of Sundance and Blue Horizons are now combined with Central Buckeye and referred to as the "Central East" service area.

Figure W1 – Map of Water Service Areas



Projected Development and Water Demand

WCS evaluated the current use and available capacity of existing water systems. The need for additional improvements is based on the land use assumptions documented in Appendix C. Starting with socioeconomic data by Traffic Analysis Zone (TAZ), WCS identified the TAZs that best matched current water service areas. As shown in Figure W2, dwelling units and jobs were converted into Equivalent Dwelling Units (EDU) and average demand in Gallons Per Day (GPD) of water, for each of the five service areas. An EDU is the average daily water demand for a single residential unit, or 480 gallons per day in Buckeye as specified in the Town's Water Design Guidelines. Over the next ten years, average daily water demand from Town of Buckeye customers is expected to increase by approximately 8.5 Million Gallons per Day (MGD).

Figure W2– Water Demand Indicators by Service Area

Service Area	*Dwelling Units*	*Jobs*	*Eqivalent Dwelling Units*	*Average Day Gallons*
North				
Festival Ranch	2,541	880	2,815	1,351,413
Sun Valley	428	1,480	891	427,497
Subtotal	2,969	2,360	3,706	1,778,910
Central North				
Tartesso	1,390	715	1,613	774,450
Tartesso East	93	773	334	160,402
Subtotal	1,482	1,489	1,948	934,852
Central West				
Cipriani	277	745	510	244,587
Gila 85	143	2,220	837	401,894
Gila Hassayampa	130	857	398	190,997
Palo Verde	210	588	394	189,027
Subtotal	761	4,410	2,139	1,026,505
Central East				
Central Buckeye	5,941	8,824	8,698	4,175,110
Sundance	486	1,093	828	397,347
Subtotal	6,427	9,917	9,526	4,572,456
South				
Gila Southwest	206	516	367	176,391
Combined (all areas)	11,845	18,691	17,686	8,489,115

Growth-Related IIP for Water Facilities

Figure W3 summarizes growth-related infrastructure improvements by service area. Given the complicated engineering analysis required to determine the need for each component in the Town's water system, all capital costs for the ten-year IIP are added together to derive a combined cost per gallon of average day water capacity. The cost of major water lines (pipes with a 16-inch or larger diameter) is from the Town's Capital Improvements Plan (CIP) or the Water Master Plan prepared by Brown and Caldwell. In Buckeye, 12-inch and smaller water lines are considered to be project level improvements that are excluded from the development fee calculations. The Town will use the water resource component for a renewable water source, such as non-Indian agricultural water, or Central Arizona Groundwater Replenishment District (CAGRD) replenishment credits. Planned expenditures for growth-related improvements to Buckeye water facilities have a total cost of almost $124 million over the next ten years. Those areas that currently require treatment of well water are anticipated to need additional treatment from future wells. If no treatment is currently required, it was assumed that no treatment would be required in the future. Areas that show no proposed major lines had no lines sizing information in the Capital Improvement Plan or the Water Master Plan.

Figure W3 – Summary of Water IIP by Service Area

Service Area	*Storage*	*Booster Pump*	*Wells*	*Treatment*	*Water Resources*	*Major Lines*	*Total*
North							
Festival Ranch	$1,992,204	$1,172,317	$3,600,000	$0	$1,432,743	$3,590,130	$11,787,394
Sun Valley	$1,368,560	$883,593	$2,400,000	$0	$453,224	$0	$5,105,377
Subtotal	$3,360,764	$2,055,909	$6,000,000	$0	$1,885,967	$3,590,130	$16,892,771
Central North							
Tartesso	$1,602,754	$992,016	$2,400,000	$1,602,754	$821,057	$3,188,234	$10,606,814
Tartesso East	$1,188,272	$800,126	$2,400,000	$1,188,272	$170,056	$0	$5,746,725
Subtotal	$2,791,025	$1,792,141	$4,800,000	$2,791,025	$991,113	$3,188,234	$16,353,539
Central West							
Cipriani	$1,245,096	$826,433	$2,400,000	$0	$259,307	$2,336,280	$7,067,116
Gila 85	$1,351,278	$875,592	$2,400,000	$0	$426,080	$1,082,811	$6,135,761
Gila Hassayampa	$1,208,923	$809,687	$2,400,000	$0	$202,492	$0	$4,621,101
Palo Verde	$1,207,593	$809,071	$2,400,000	$0	$200,403	$368,709	$4,985,777
Subtotal	$5,012,891	$3,320,783	$9,600,000	$0	$1,088,281	$3,787,800	$22,809,755
Central East							
Central Buckeye	$5,010,132	$2,609,444	$8,400,000	$6,680,176	$4,426,373	$26,763,211	$53,889,335
Sundance	$1,348,209	$874,171	$2,400,000	$1,348,209	$421,260	$837,854	$7,229,703
Subtotal	$6,358,341	$3,483,614	$10,800,000	$8,028,385	$4,847,633	$27,601,066	$61,119,038
South							
Gila Southwest	$1,199,064	$805,122	$2,400,000	$0	$187,007	$1,889,480	$6,480,672
Combined (all areas)	$18,722,085	$11,457,570	$33,600,000	$10,819,410	$9,000,000	$40,056,710	$123,655,775

Preliminary Water Development Fees

Figure W4 summarizes growth-related costs and the projected increase in water demand (average GPD) that are used to derive the preliminary water system development fee by service area. The amounts shown are for the smallest meter size. The next draft of the development fees will provide fees for larger meters, derived using capacity ratios published by the American Water Works Association. The major reason for the significant fee increases in the Central West and South Service Areas is the allocation of significant lump sum costs, necessary to expand service, with a relatively small base of customers over the next ten years, to help pay for the capital costs.

Figure W4 – Water Development Fees by Service Area

Service Area	*Growth Cost of Water IIP*	*Average Day Gallons Increase*	*Cost per Gallon of Capacity*	*Preliminary Fee for Smallest Meter**	*Current Fee for Smallest Meter*	*$ Change*	*% Change*
North	$16,892,771	1,778,910	$9.49	$4,555	$4,766	($211)	-4%
Central North	$16,353,539	934,852	$17.49	$8,395	$4,766	$3,629	76%
Central West	$22,809,755	1,026,505	$22.22	$10,665	$2,574	$8,091	314%
Central East	$61,119,038	4,572,456	$13.36	$6,412	$3,689	$2,723	74%
South	$6,480,672	176,391	$36.74	$17,635	$0	$17,635	

** 480 average day gallons per EDU (Water System Design Guidelines, 2012).*

WASTEWATER FACILITIES

ARS 9-463.05 (T)(7)(f) defines the facilities and assets which can be included in the Wastewater Facilities IIP:

> *"Wastewater facilities, including collection, interception, transportation, treatment and disposal of wastewater, and any appurtenances for those facilities."*

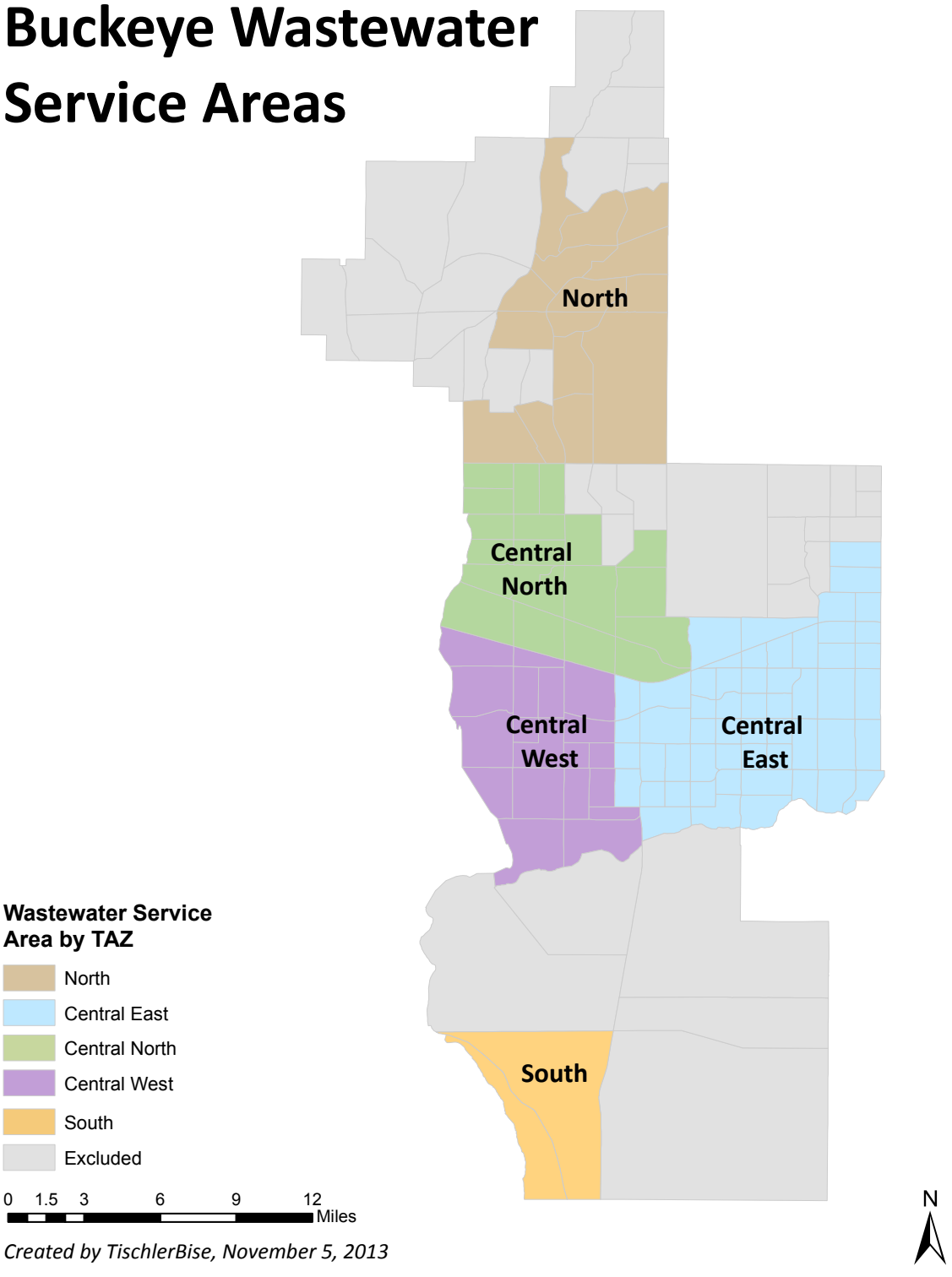
The Wastewater Facilities development fee includes the growth-related cost of planned improvements, such as wastewater treatment and major sewer lines for both collection and recharge/reuse. WCS prepared the wastewater facilities IIP.

Wastewater Service Area and Service Units

Average day gallons of wastewater flow are the service units for sewer development fees. Areas served by private companies are outside the Town's service area and are shown as "excluded" on the map below. The remainder of the area shown as "excluded" is not expected to have any significant development over the next five years. Utility service area maps are based on Traffic Analysis Zone (TAZ) boundaries, which is the unit of analysis for socioeconomic data. TAZ boundaries are not identical to the legal descriptions of utility service areas, which will be used to determine the service provider for a specific development.

Current utility development fees for wastewater facilities in Buckeye are imposed in three "Zones." Due to changes in Arizona's enabling legislation, TischlerBise recommends five "service areas" as mapped in Figure WW1. The major change from the current fees is splitting Zone 3 into separate service areas. North of Northern Avenue is now referred to as the "North" service area. South of Northern Avenue to I-10, and generally west of the White Tank Mountains, is now referred to as "Central North." The master planned communities of Sundance and Blue Horizons are now combined with Central Buckeye and referred to as the "Central East" service area.

Figure WW1 – Map of Wastewater Service Areas



Demand Indicators and Wastewater Flow

WCS evaluated the current use and available capacity of existing wastewater facilities. The need for additional improvements is based on the land use assumptions documented in Appendix C. Starting with socioeconomic data by Traffic Analysis Zone (TAZ), WCS identified the TAZs that best matched current wastewater service areas. As shown in Figure WW2, dwelling units and jobs were converted into Equivalent Dwelling Units (EDU) and average day gallons of wastewater flow, for each of the five service areas. An EDU is the average daily wastewater flow from a single residential unit, or 320 gallons per day in Buckeye, as specified in the Town's Wastewater Design Guidelines. Over the next ten years, average day wastewater from Town of Buckeye customers is expected to increase by approximately 7.6 Million Gallons per Day (MGD). In Buckeye, the projected ten-year increase in wastewater flow is equal to 89% of the projected increase in water demand. A bigger differential is typical in most jurisdictions because water and sewer connections tend to be similar. In Buckeye, the ten-year increase in dwelling units within sewer service areas is 40% more than the increase within water service areas. The projected increase in jobs is 22% higher (i.e. an increase of 22,785 jobs in sewer service areas and 16,536 jobs in water service areas). Sewer demand units are greater than the Town's water demand units due to private water companies.

Figure WW2 – Sewer Demand by Service Area

Service Area	*Dwelling Units*	*Jobs*	*Eqivalent Dwelling Units*	*Average Day Gallons*
North				
Festival Ranch	2,541	880	2,816	900,965
Sun Valley	428	1,480	891	285,138
Subtotal	2,969	2,360	3,707	1,186,102
Central North				
Tartesso	1,418	820	1,675	536,002
Tartesso East	93	773	335	107,043
Subtotal	1,511	1,593	2,010	643,045
Central West				
Cipriani	277	745	510	163,139
Gila 85	143	2,220	837	267,971
Gila Hassayampa	130	857	398	127,396
Palo Verde	210	588	394	126,137
Subtotal	761	4,410	2,140	684,643
Central East				
Central Buckeye	9,510	11,666	13,156	4,209,981
Sundance	1,580	2,241	2,281	729,929
Subtotal	11,090	13,907	15,437	4,939,911
South				
Gila Southwest	206	516	368	117,873
Combined (all areas)	16,536	22,785	23,661	7,571,574

Wastewater IIP

As shown in Figure WW3, Buckeye anticipates major expenditures of $110.59 million for growth-related wastewater facilities, over the next ten years. Almost half of planned expenditures are for expansion of wastewater treatment plants, assuming an average cost of $7.00 per gallon of capacity. Major lines needed to expand the wastewater collection system are from the Town Capital Improvements Plan (CIP) and the Wastewater Master Plan by Brown and Caldwell. WCS derived the estimated cost of recharge and reuse improvements.

Figure WW3 – Summary of Wastewater IIP by Service Areas

Service Area	*Treatment*	*Recharge & Reuse*	*Collection System*	*Total*
North				
Festival Ranch	$6,306,752	$1,717,682	$744,220	$8,768,655
Sun Valley	$1,995,964	$1,409,769	$2,149,662	$5,555,395
Subtotal	$8,302,717	$3,127,451	$2,893,882	$14,324,050
Central North				
Tartesso	$3,752,017	$1,535,201	$5,401,644	$10,688,862
Tartesso East	$749,300	$1,320,721	$0	$2,070,021
Subtotal	$4,501,317	$2,855,923	$5,401,644	$12,758,884
Central West				
Cipriani	$1,141,971	$1,682,232	$3,441,619	$6,265,822
Gila 85	$1,875,797	$1,401,185	$5,068,815	$8,345,797
Gila Hassayampa	$891,773	$1,330,898	$0	$2,222,671
Palo Verde	$882,961	$1,330,269	$1,485,376	$3,698,606
Subtotal	$4,792,502	$5,744,584	$9,995,810	$20,532,896
Central East				
Central Buckeye	$29,469,869	$3,860,591	$18,206,285	$51,536,744
Sundance	$5,109,506	$1,632,165	$1,797,907	$8,539,578
Subtotal	$34,579,375	$5,492,755	$20,004,192	$60,076,323
South				
Gila Southwest	$825,108	$1,326,136	$744,486	$2,895,730
Combined (all areas)	$53,001,018	$18,546,850	$39,040,014	$110,587,882

Preliminary Wastewater Development Fees

Figure WW4 summarizes growth-related costs and the projected increase in wastewater flow (average day gallons) that are used to derive the preliminary sewer system development fee by service area. The amounts shown are for the smallest meter size. The next draft of the development fees will provide fees for larger meters, derived using capacity ratios published by the American Water Works Association. Preliminary fees decrease 7-13 percent in the North and Central East Service Areas, and increase 43-60 percent in the Central North and Central West Service Areas.

Figure WW4 – Preliminary Wastewater Development Fee Schedule

Service Area	*Growth Cost of Wastewater IIP*	*Average Day Gallons Increase*	*Cost per Gallon of Capacity*	*Preliminary Fee for Smallest Meter**	*Current Fee for Smallest Meter*	*$ Change*	*% Change*
North	$14,324,050	1,186,102	$12.07	$3,862	$4,440	($578)	-13%
Central North	$12,758,884	643,045	$19.84	$6,348	$4,440	$1,908	43%
Central West	$20,532,896	684,643	$29.99	$9,596	$5,988	$3,608	60%
Central East	$60,076,323	4,939,911	$12.16	$3,891	$4,169	($278)	-7%
South	$2,895,730	117,873	$24.56	$7,859	$0	$7,859	

** 320 average day gallons per EDU (Buckeye Wastewater System Design Guidelines, 2012).*

APPENDIX A – REVENUE STRATEGY AND REQUIRED OFFSETS

9-463.05.E.7. "A forecast of revenues generated by new service units other than development fees, which shall include estimated state-shared revenue, highway users revenue, federal revenue, ad valorem property taxes, construction contracting or similar excise taxes and the capital recovery portion of utility fees attributable to development based on the approved land use assumptions, and a plan to include these contributions in determining the extent of the burden imposed by the development as required in subsection B, paragraph 12 of this section."

9-463.05.B.12. "The municipality shall forecast the contribution to be made in the future in cash or by taxes, fees, assessments or other sources of revenue derived from the property owner towards the capital costs of the necessary public service covered by the development fee and shall include these contributions in determining the extent of the burden imposed by the development. Beginning August 1, 2014, for purposes of calculating the required offset to development fees pursuant to this subsection, if a municipality imposes a construction contracting or similar excise tax rate in excess of the percentage amount of the transaction privilege tax rate imposed on the majority of other transaction privilege tax classifications, the entire excess portion of the construction contracting or similar excise tax shall be treated as a contribution to the capital costs of necessary public services provided to development for which development fees are assessed, unless the excess portion was already taken into account for such purpose pursuant to this subsection."

Figure A1 – Revenue Projections

TO BE PROVIDED IN NEXT DRAFT

APPENDIX B – COST OF PROFESSIONAL SERVICES

As stated in Arizona's development fee enabling legislation, "a municipality may assess development fees to offset costs to the municipality associated with providing necessary public services to a development, including the costs of infrastructure, improvements, real property, engineering and architectural services, financing and professional services required for the preparation or revision of a development fee pursuant to this section, including the relevant portion of the infrastructure improvements plan" (see 9-463.05.A). Because development fees must be updated at least every five years, the cost of professional services is allocated to the projected increase in service units over five years. Qualified professionals must develop the IIP, using generally accepted engineering and planning practices. A qualified professional is defined as "a professional engineer, surveyor, financial analyst or planner providing services within the scope of the person's license, education or experience". Costs shown in Figure B1 include professional services by TischlerBise and WCS (Municipal Engineers and Planners).

Figure B1 – Cost of Professional Services

Necessary Public Service	*Cost*	*Development Type*	*Share*	*Demand Indicator*				*Cost per Demand Unit*
				Units	*2013*	*2018*	*Increase*	
Parks and Recreation	$27,096	Residential	100%	Peak Population	64,306	85,737	21,431	$1.26
Libraries	$27,096	Residential	100%	Peak Population	64,306	85,737	21,431	$1.26
Water	$54,192	All Development	100%	Equivalent Dwelling Units			17,686	$3.06
Sewer	$54,192	All Development	100%	Equivalent Dwelling Units			23,661	$2.29
Streets	$54,192	All Development	100%	Avg Wkdy VMT	687,582	956,958	269,375	$0.20
Police	$27,096	Residential	82%	Peak Population	64,306	85,737	21,431	$1.03
		Nonresidential	18%	Avg Wkdy Veh Trips to Nonres	50,682	83,418	32,736	$0.14
Fire	$27,096	Residential	82%	Peak Population	64,306	85,737	21,431	$1.03
		Nonresidential	18%	Jobs	16,149	24,430	8,281	$0.58
	$270,960	*Total (TB & WCS)*						

APPENDIX C – LAND USE ASSUMPTIONS

For municipalities in Arizona, the state enabling legislation now requires supporting documentation on land use assumptions, a plan for infrastructure improvements, and development fee calculations. This document contains the land use assumptions for the Town of Buckeye 2013 development fee update. Development fees must be updated every five years, making short-range projections the critical time frame. The Infrastructure Improvements Plan (IIP) is limited to ten years, thus a very long-range "build-out" analysis may not be used to derive development fees.

Arizona Revised Statutes (ARS) 9-463.05 (T)(6) requires the preparation of a *Land Use Assumptions* document which shows:

> *"Projections of changes in land uses, densities, intensities and population for a specified service area over a period of at least ten years and pursuant to the General Plan of the municipality."*

TischlerBise prepared current demographic ***estimates*** and future development ***projections*** for both residential and nonresidential development that will be used in the Infrastructure Improvement Plan (IIP) and calculation of the development fees. Demographic data for FY13-14 (beginning July 1, 2013) are used in calculating levels-of-service (LOS) provided to existing development in the Town of Buckeye. Although long-range projections are necessary for planning infrastructure systems, a shorter five to ten year time frame is critical for the impact fees analysis. Due to the slow recovery from the Great Recession, TischlerBise used compound growth rates to produce conservative initial projections that increase over time. The basic methodology converts population projections to housing units and job projections to nonresidential floor area.

Arizona's Development Fee Act requires fees to be updated at least every five years and limits the IIP to a maximum of ten years. Therefore, the use of a very long-range "build-out" analysis is no longer acceptable for deriving development fees in Arizona municipalities.

Summary of Growth Indicators

Development projections and growth rates are summarized in Figure C1. These projections will be used to estimate development fee revenue and to indicate the anticipated need for growth-related infrastructure. However, development fee methodologies are designed to reduce sensitivity to accurate development projections in the determination of the proportionate-share fee amounts. If actual development is slower than projected, impact fees revenues will also decline, but so will the need for growth-related infrastructure. In contrast, if development is faster than anticipated, the Town will receive an increase in impact fee revenue, but will also need to accelerate capital improvements to keep pace with development.

Development projections are based on Maricopa Association of Governments socioeconomic data by traffic analysis zone (June 2013). TischlerBise used MAG's 2010, 2020, and 2030 data for the Municipal Planning Area (MPA). The Town of Buckeye will continue to annex land as development occurs, with the incorporated area expanding over time to eventually approximate the planning area. For 2020 to 2020 interim years, TischlerBise used compound growth rates, thus yielding conservative initial growth with annual increments that increase over time. For interim year data from 2020 to 2030, TischlerBise derived average annual increases (i.e. linear growth).

During the next five years, the development fee study assumes an average increase of 1,356 housing units per year (compound annual growth rate of 4.8%). In comparison, Buckeye's average annual increase was 716 housing units over the past five years. From 2013 to 2018 the development fee study expects Buckeye to add nonresidential floor area averaging 1,084,000 square feet per year (compound annual increase of 10.1%).

Note: MPA = Municipal Planning Area
KSF = Square Feet of nonresidential floor area in thousands

Figure C1 – Summary of Municipal Planning Area Projections and Growth Rates

Based on socioeconomic data by traffic analysis zone, Maricopa Association of Governments (June 2013).

Year	MPA Total as of July 1st	
	Housing Units	*Nonres Sq Ft in thousands*
2013	25,847	8,750
2014	27,078	9,610
2015	28,368	10,570
2016	29,721	11,620
2017	31,140	12,810
2018	32,627	14,170
2023	44,673	22,020

Buckeye, AZ	Annual Increase	
Timeframe	*Single Family Permits*	*Nonres Sq Ft x 1000*
2008 CY permits	1,503	
2009 CY permits	488	
2010 CY permits	381	
2011 CY permits	507	
2012 CY permits	699	
7/13-7/14	1,231	860
7/14-7/15	1,290	960
7/15-7/16	1,353	1,050
7/16-7/17	1,419	1,190
7/17-7/18	1,488	1,360

	2013 to 2018 Average Annual	
	Increase	*Compound Growth Rate*
Residential Units	1,356	4.8%
Nonresidential Sq Ft x 1000	1,084	10.1%

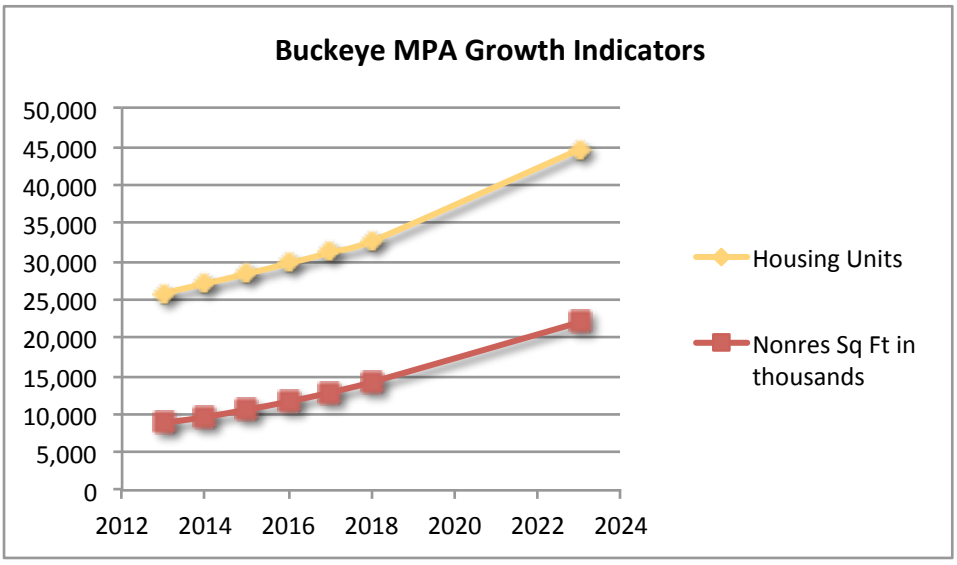


Figure C2 provides additional detail on the annual increases in demand indicators (change from July 1st to July 1st of the next year). Single-unit housing tends to be the most consistent type of development from year to year. In contrast, apartments and all nonresidential development vary significantly over time. The Town of Buckeye will closely monitor actual development each year. If needed, development fees can be updated prior to the required five-year cycle. Please see Figure C10 and related text for additional information on types of nonresidential development.

Figure C2 – Projected Annual Increases for the Buckeye MPA

Annual Increase	7/13-7/14	7/14-7/15	7/15-7/16	7/16-7/17	7/17-7/18	7/18-7/19	***2013-2023 Avg Anl***
Town Peak Population	3,894	4,079	4,275	4,481	4,702	4,933	5,949
Town Housing Units	1,231	1,290	1,353	1,419	1,488	1,561	1,883
MPA Jobs	807	894	991	1,101	1,223	1,361	2,117
MPA Industrial KSF	340	390	430	510	570	650	559
MPA Commercial KSF	210	230	270	300	350	400	324
MPA Institutional KSF	180	200	200	230	260	270	223
MPA Office & Other KSF	130	140	150	150	180	170	221
Total MPA Nonres KSF/Yr =>	860	960	1,050	1,190	1,360	1,490	1,327

Service Areas

ARS 9-463.05(T)(9) defines "service area" as follows:

> *"Any specified area within the boundaries of a municipality in which development will be served by necessary public services or facility expansions and within which a substantial nexus exists between the necessary public services or facility expansions and the development being served as prescribed in the infrastructure improvements plan. "*

Arizona's development fee legislation includes detailed definitions of the types of infrastructure that are considered to be "necessary public services." In the Town of Buckeye, development fees for police, fire, parks, libraries, and streets are currently imposed town-wide. Water and sewer fees are currently imposed by sub-area, with the actual service area limited by the geographic extent of utility lines. TischlerBise recommends continuation of this approach.

To provide demographic data for the demand analysis required for impact fees, TischlerBise has tabulated population, housing units, jobs, and nonresidential floor area by four demographic areas. The four areas and their general boundaries are described below. The only significant change from the 2009 development fee study is the recommendation to have one central area, rather than separate Zone 1 (central east) from Zone 2 (central west).

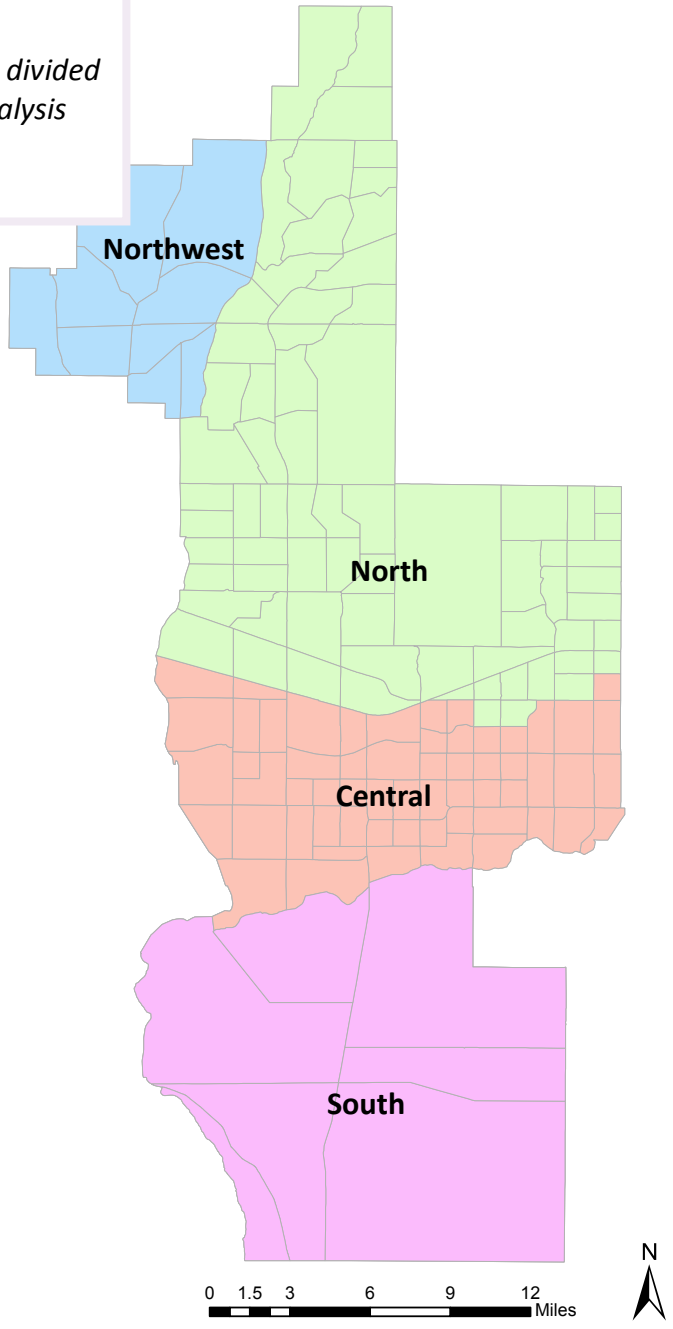
Demographic Area	***Description***
Central	I-10 to the Gila River, except Master Planned Communities of Sundance and Blue Horizons
North	East of Hassayampa River and North of I-10, including the Master Planned Communities of Sundance and Blue Horizons
Northwest	West of Hassayampa River
South	South of Gila River

The rationale for these sub-areas and their applicability to each type of infrastructure will be further discussed in the Infrastructure Improvements Plan (IIP). The boundaries of the demographic areas are shown in the map below (see Figure C3).

Figure C3: Map of Buckeye Demographic Areas

Town of Buckeye

Note: the Municipal Planning Area was divided into demographic areas using traffic analysis zones (designated with gray polygons).



According to the latest socioeconomic data by traffic analysis zone (MAG, June 2013), the north demographic area is projected to have the largest dwelling unit increase over the next five years (see Figure C4). The next largest increase is in the central demographic area. No increase in residential units is expected in the northwest over the next five years.

Figure C4: Housing Units by Demographic Area

Dwelling Units				*Annual Growth*
	2013	*2018*	*Increase*	*(linear rate)*
North	14,752	18,599	3,847	5.2%
Central	10,994	13,839	2,845	5.2%
South	87	175	88	20.3%
Total	25,833	32,613	6,780	

Source: Based on MAG socioeconomic data by traffic analysis zone (June 2013). No increase in Northwest.

As shown in Figure C5, almost all of the industrial floor area in Buckeye is located in the central demographic area. Major increases in industrial jobs and floor area are also expected in the central demographic area over the next five years.

Figure C5: Industrial Floor Space by Demographic Area

Industrial	*Square Feet of Floor Area (in thousands)*			*Annual Growth*
	2013	*2018*	*Increase*	*(linear rate)*
North	250	620	370	29.6%
Central	2,130	5,100	2,970	27.9%
South	100	120	20	4.0%
Total	2,480	5,840	3,360	

Source: Based on MAG socioeconomic data by traffic analysis zone (June 2013). No increase in Northwest.

All other types of nonresidential floor space (i.e. commercial, institutional, office, and other) by demographic area are shown in Figure C6. Although these types of nonresidential buildings tend to follow residential development, both the north and central areas have similar increases. The percentage increase is slightly larger in the north because the base amount of smaller (i.e. there is currently less nonresidential floor area in the north).

Figure C6: All Other Nonresidential by Demographic Area

All Other Nonresidential	*Square Feet of Floor Area (in thousands)*			*Annual Growth*
	2013	*2018*	*Increase*	*(linear rate)*
North	2,650	4,060	1,410	10.6%
Central	3,200	4,850	1,650	10.3%
South	420	540	120	5.7%
Total	6,270	9,450	3,180	

Source: Based on MAG socioeconomic data by traffic analysis zone (June 2013). No increase in Northwest.

Residential Development

Current estimates and future projections of residential development are detailed in this section, including population and housing units by type. Since 2000, Buckeye increased by an average of 1,586 housing units per year. Figure C7 indicates the estimated number of housing units added by decade in Buckeye. Consistent with the nationwide decline in development activity, residential construction in the Town has slowed significantly since 2008. Even with the recent drop in housing starts, Buckeye added more units during the past decade than any previous decade. For comparison, the projected increase in dwelling units over the next decade is also shown on the graph.

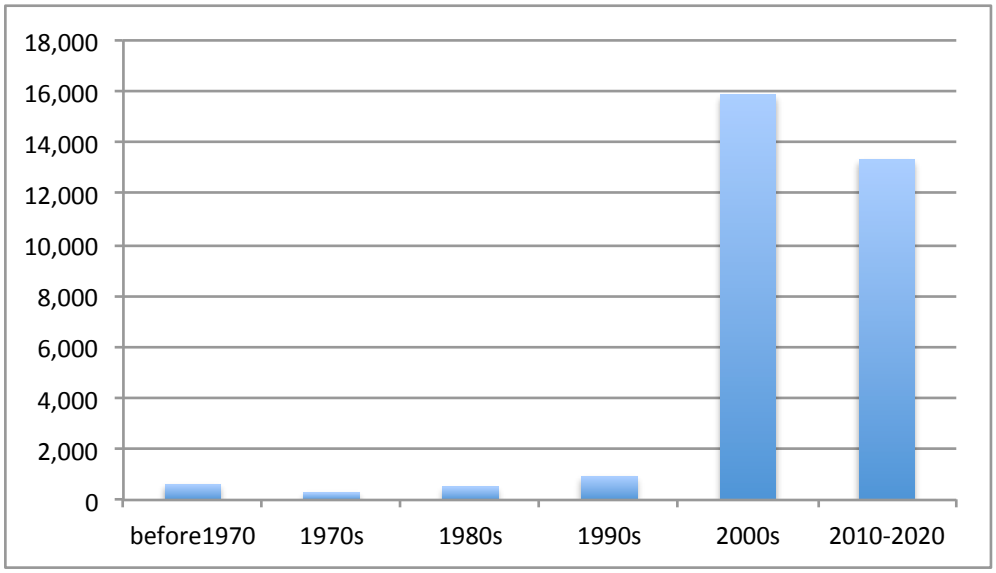
Figure C7 – Housing Units by Decade

Buckeye, Arizona

Census 2010 Population*	50,876
Census 2010 Housing Units*	18,207
Total Housing Units in 2000	2,344
New Housing Units	15,863

From 2000 to 2010, Buckeye added an average of 1,586 housing units per year.

* *U.S. Census Bureau, Summary File 1.*



Source for 1990s and earlier is Table B25034, American Community Survey (2007-2011) scaled to equal total housing units in 2000. Projected housing unit increase from 2010 to 2020 is based on MAG socioeconomic data (June 2013).

The 2010 census did not obtain detailed information using a "long-form" questionnaire. Instead, the U.S. Census Bureau switched to a continuous monthly mailing of surveys, known as the American Community Survey (ACS), which has limitations due to sample-size constraints. For example, data on detached housing units are now combined with attached single units (commonly known as townhouses). For development fees in Buckeye, "single-unit" residential includes detached units (both site-built and manufactured) and townhouses that share a common sidewall, but constructed on an individual parcel of land. The second residential category includes all structures with two or more units on an individual parcel of land.

According to the U.S. Census Bureau, a household is a housing unit that is occupied by year-round residents. Development fees often use per capita standards and persons per housing unit, or persons per household, to derive proportionate-share fee amounts. When persons per housing unit are used in the fee calculations, infrastructure standards are derived using year-round population. When persons per household are used in the fee calculations, the development fee methodology assumes all housing units will be occupied, thus requiring seasonal or peak population to be used when deriving infrastructure standards.

For the development fee calculations, TischlerBise will use average persons per household from the Town of Buckeye water and sewer design guidelines, as shown at the bottom of Figure C8. The ACS housing mix was used to produce the weighted average of 3.16 persons per household.

Figure C8 – Persons per Household by Type of Housing

2009 Summary by Type of Housing from American Community Survey

	Renter & Owner				
Units in Structure	*Persons*	*House-holds*	*Persons per Household*	*Housing Units*	*Housing Mix*
Single Unit*	41,802	12,780	3.27	15,663	94%
2+ Units	1,842	796	2.31	937	6%
TOTAL	43,644	13,576	3.21	16,600	

Source: Tables B25024, B25032, and B25033.

2007-2011 American Community Survey, U.S. Census Bureau.

2010 Census

Single Unit*	43,850	13,578	3.23	17,179	*Vacant or*
2+ Units	1,932	846	2.28	1,028	*Seasonal*
Subtotal	45,782	14,424	3.17	18,207	21%
Group Quarters	5,094				
TOTAL	50,876				

** Single unit includes detached, attached, and mobile homes.*

Source: Totals from Summary File 1, U.S. Census Bureau.

Town of Buckeye Water and Sewer Design Guidelines

Units in Structure	*Persons per Household*
Single Unit	3.20
2+ Units	2.50
Weighted Average	3.16

Demographic data shown in Figure C9 provide key inputs for updating development fees in the Town of Buckeye. TischlerBise obtained 2010, 2020, and 2030 data for the entire MPA by traffic analysis zone (MAG, June 2013), which were summarized by demographic area. The municipal planning area is larger than the city limits, but the difference will decrease over time as the Town continues to annex additional land area.

TischlerBise derived the interim year data using exponential growth formulas, with growth rates based on the beginning (2010) and ending (2020) data points. This approach provides more conservative short-range projections, with annual increases growing larger over time.

As shown in the bottom row, the average number of persons per household remains constant over time. TischlerBise converted dwelling units to peak population assuming an average of 3.16 persons per household.

Figure C9 – Buckeye MPA Residential Development

Buckeye Municipal Planning Area	*FY13-14* *2013* *Base Yr*	*FY14-15* *2014* *1*	*FY15-16* *2015* *2*	*FY16-17* *2016* *3*	*FY17-18* *2017* *4*	*FY18-19* *2018* *5*	*FY20-21* *2020* *7*	*FY23-24* *2023* *10*
Peak Population by Demographic Area								
Central	34,741	36,377	38,090	39,884	41,763	43,730	47,947	59,870
North	46,616	48,828	51,144	53,571	56,112	58,774	64,483	80,362
Northwest	45	45	46	46	46	47	47	64
South	274	315	363	417	480	552	730	869
Total MPA Peak Population	81,676	85,565	89,643	93,918	98,401	103,103	113,207	141,165
Dwelling Units by Demographci Area								
Central	10,994	11,512	12,054	12,622	13,216	13,839	15,173	18,946
North	14,752	15,452	16,185	16,953	17,757	18,599	20,406	25,431
Northwest	14	14	14	15	15	15	15	20
South	87	100	115	132	152	175	231	275
Total MPA Dwelling Units	25,847	27,078	28,368	29,721	31,140	32,627	35,825	44,673
Persons per Household	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16

Nonresidential Development

In addition to data on residential development, the infrastructure improvements plan and development fees require data on nonresidential development in Buckeye. Current estimates and future projections of nonresidential development are detailed in this section, including jobs and floor area by type. TischlerBise uses the term "jobs" to refer to employment by place of work.

Figure C10 indicates 2013 job and floor area estimates for the Town of Buckeye, according to four general types of nonresidential development. TischlerBise estimated floor area using average square feet per job multipliers, derived from trip generation data published by the Institute of Transportation Engineers (9th edition 2012). The prototype for industrial development is warehousing. The prototype for commercial development is an average-size shopping center. For institutional development, an elementary school is the prototype. An average-size general office building is the prototype for office and all other types of nonresidential development.

For the purpose of development fee calculations, TischlerBise excluded construction, non-site based employment, and work-at-home employment. These types of jobs do not result in any substantial increase in nonresidential floor area.

Figure C10 – 2013 Jobs and Floor Area Estimates

	2013 Jobs (1)		*Sq Ft per Job*	*2013 Floor Area (2)*	*Jobs per 1000 Sq Ft*
Industrial (3)	2,259	14%	1,100	2,485,000	0.91
Commercial (4)	2,942	18%	500	1,471,000	2.00
Institutional (5)	2,177	13%	1,000	2,177,000	1.00
Office/Other (6)	8,770	54%	300	2,631,000	3.33
TOTAL	16,148	100%	543	8,764,000	1.84

(1) Jobs in 2013 based on MAG socioeconomic projections (June 2013) for 2010 and 2020.
(2) Estimated from the number of jobs using square feet per employee multipliers derived from Trip Generation (Institute of Transportation Engineers, 2012).
(3) MAG industrial (excludes construction and non-site based employment).
(4) MAG retail.
(5) MAG public.
(6) MAG office and other (excludes work-at-home employment).

Figure C11 provides base year data and a ten-year forecast of both jobs and nonresidential floor for the entire planning area. Based on the latest MAG employment forecast (June 2013), the 2013 inventory of nonresidential building space will more than double over the next ten years. Also, Buckeye is expected to become more of an employment center with jobs increasing faster than housing units. In 2010, there were 0.62 jobs for every housing unit in the Buckeye MPA. By 2023, the ratio increases to 0.84 jobs per housing unit in the Buckeye MPA. Construction, non-site based employment, and work-at-home jobs were excluded to more accurately indicate the increase in nonresidential floor area. Average square feet per job increases over time due to an increase in the share of industrial jobs.

Figure C11 – Buckeye MPA Nonresidential Development

Buckeye Municipal Planning Area	*FY13-14* *2013* *Base Yr*	*FY14-15* *2014* *1*	*FY15-16* *2015* *2*	*FY16-17* *2016* *3*	*FY17-18* *2017* *4*	*FY18-19* *2018* *5*	*FY20-21* *2020* *7*	*FY23-24* *2023* *10*
Jobs (by place of work)								
Total MPA Jobs - Industrial	2,259	2,566	2,916	3,316	3,772	4,293	5,569	7,339
Total MPA Jobs - Commercial	2,942	3,352	3,819	4,351	4,958	5,649	7,335	9,428
Total MPA Jobs - Institutional	2,177	2,353	2,544	2,754	2,984	3,236	3,830	4,399
Total MPA Jobs - Office/Other	8,770	9,215	9,684	10,179	10,701	11,252	12,449	16,156
Total MPA Jobs	16,149	17,486	18,964	20,600	22,414	24,430	29,183	37,323
Jobs to Housing Ratio	0.62	0.65	0.67	0.69	0.72	0.75	0.81	0.84
MPA Total Nonresidential Floor Area (square feet in thousands)								
Industrial KSF	2,480	2,820	3,210	3,640	4,150	4,720	6,130	8,070
Commercial KSF	1,470	1,680	1,910	2,180	2,480	2,830	3,660	4,710
Institutional KSF	2,170	2,350	2,550	2,750	2,980	3,240	3,830	4,400
Office & Other KSF	2,630	2,760	2,900	3,050	3,200	3,380	3,730	4,840
Total MPA KSF	8,750	9,610	10,570	11,620	12,810	14,170	17,350	22,020
Avg Sq Ft Per Job	542	550	557	564	572	580	595	590

APPENDIX D – WATER AND WASTEWATER IIP DETAILS

WCS prepared the maps and tables in Appendix D. In the IIP tables presented below, the "Capacity" column represents the quantity needed to accommodate projected development over the next ten years. The amounts shown have different measurement units, depending on the type of improvement, as summarized in the table below.

Water Storage	Gallons
Water Booster Pump	Gallons per Minute
Water Wells	Count
Water Treatment	Gallons per Day
Water Lines	Linear Feet
Wastewater Treatment	Gallons per Day
Wastewater Recharge/Reuse	Gallons per Day
Wastewater Lines	Linear Feet

Water North

Figure D1 – Existing Water Facilities North

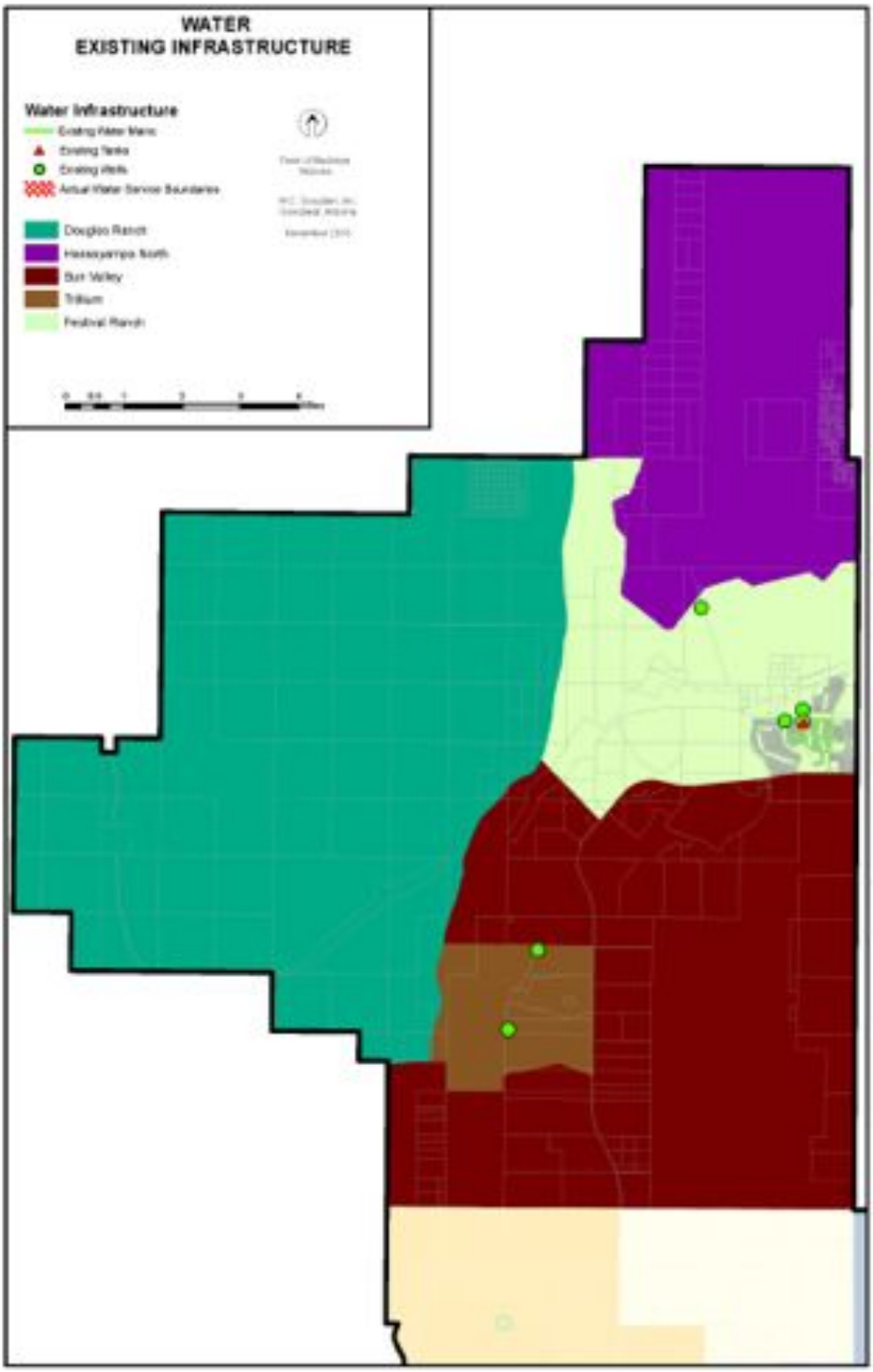


Figure D2 – North Water IIP

Component	*Capacity*	*Unit Cost*	*Total Cost*
Festival Ranch ***Water***			
Storage	1,328,136	$1.50	$1,992,204
Booster Pump Capacity	4,689	$250	$1,172,317
Wells	3	$1,200,000	$3,600,000
Treatment	0	$1.50	$0
Water Resource	16%	$9,000,000	$1,432,743
16" Water Line	29,918	$120	$3,590,130
Total			$11,787,394

Component	*Capacity*	*Unit Cost*	*Total Cost*
Sun Valley ***Water***			
Storage	912,373	$1.50	$1,368,560
Booster Pump Capacity	3,534	$250	$883,593
Wells	2	$1,200,000	$2,400,000
Treatment	0	$1.50	$0
Water Resource	5%	$9,000,000	$453,224
Pipe	0		$0
Total			$5,105,377

Water Central

Figure D3 – Existing Water Facilities Central

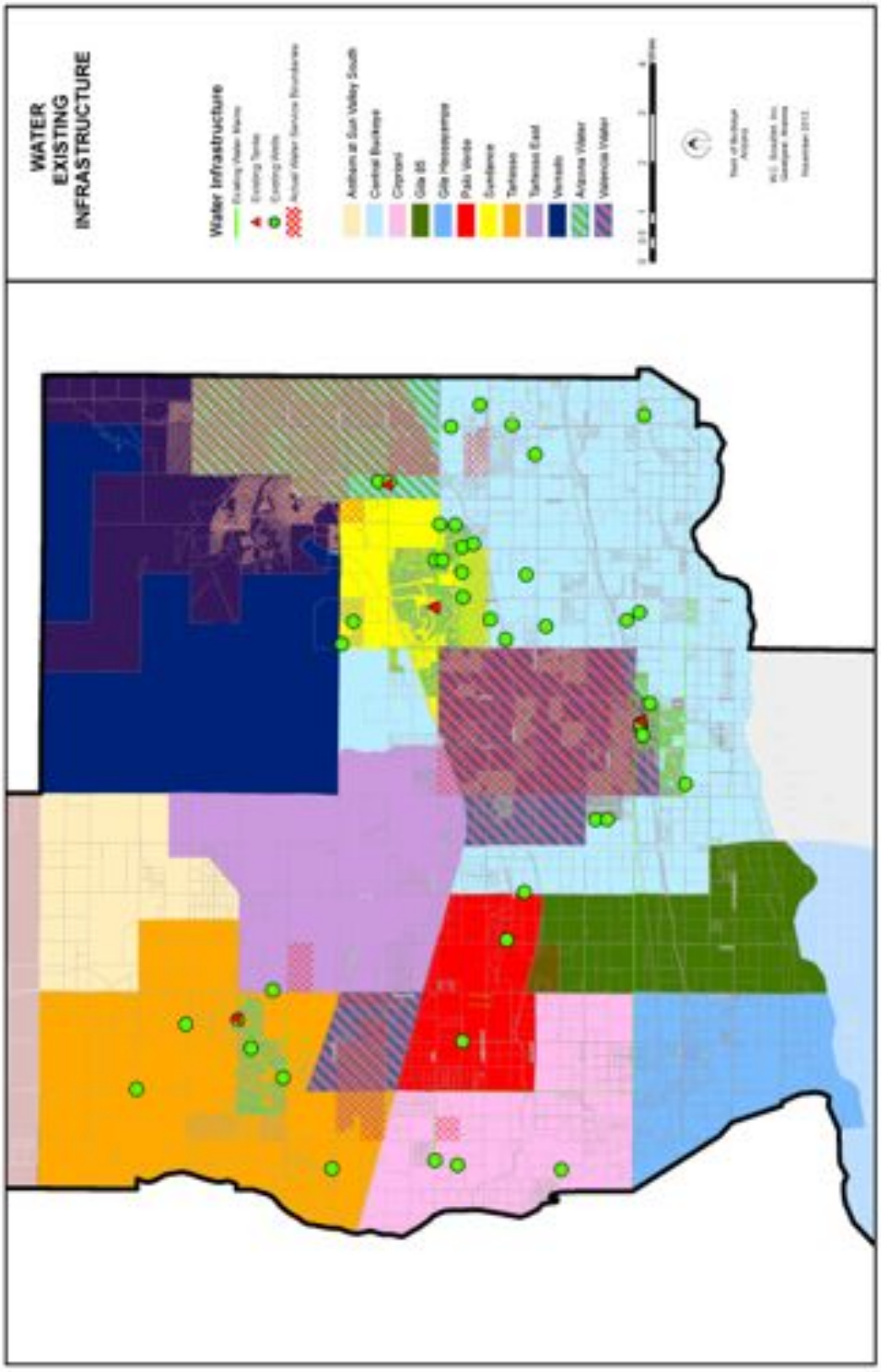


Figure D4 – Central North Water IIP

Component	Growth Quantity	Unit Cost	Total Cost
Tartesso			
Water			
Storage	1,068,502	$1.50	$1,602,754
Booster Pump Capacity	3,968	$250	$992,016
Wells	2	$1,200,000	$2,400,000
Treatment	1,068,502	$1.50	$1,602,754
Water Resource	9%	$9,000,000.00	$821,057
16" Water Line	26,569	$120	$3,188,234
Total			$10,606,814

Component	Growth Quantity	Unit Cost	Total Cost
Tartesso East			
Water			
Storage	792,181	$1.50	$1,188,272
Booster Pump Capacity	3,201	$250	$800,126
Wells	2	$1,200,000	$2,400,000
Treatment	792,181	$1.50	$1,188,272
Water Resource	2%	$9,000,000	$170,056
Pipe	0		$0
Total			$5,746,725

Figure D5 – Central West Water IIP

Component	Capacity	Unit Cost	Total Cost
Cipriani			
Water			
Storage	830,064	$1.50	$1,245,096
Booster Pump Capacity	3,306	$250	$826,433
Wells	2	$1,200,000	$2,400,000
Treatment	0	$1.50	$0
Water Resource	3%	$9,000,000	$259,307
30" Water Line	2,665	$220	$586,329
16" Water Line	14,583	$120	$1,749,951
Total			$7,067,116

Component	Capacity	Unit Cost	Total Cost
Gila 85			
Water			
Storage	900,852	$1.50	$1,351,278
Booster Pump Capacity	3,502	$250	$875,592
Wells	2	$1,200,000	$2,400,000
Treatment	0	$1.50	$0
Water Resource	5%	$9,000,000.00	$426,080
30" Water Line	552	$220	$121,454
16" Water Line	8,011	$120	$961,357
Total			$6,135,761

Component	Capacity	Unit Cost	Total Cost
Gila Hassayampa			
Water			
Storage	805,949	$1.50	$1,208,923
Booster Pump Capacity	3,239	$250	$809,687
Wells	2	$1,200,000	$2,400,000
Treatment	0	$1.50	$0
Water Resource	2%	$9,000,000	$202,492
Pipe	0		$0
Total			$4,621,101

Component	Capacity	Unit Cost	Total Cost
Palo Verde			
Water			
Storage	805,062	$1.50	$1,207,593
Booster Pump Capacity	3,236	$250	$809,071
Wells	2	$1,200,000	$2,400,000
Treatment	0	$1.50	$0
Water Resource	2%	$9,000,000	$200,403
30" Water Line	308	$220	$67,681
16" Water Line	2,509	$120	$301,028
Total			$4,985,777

Figure D6 – Central East Water IIP

Component	*Capacity*	*Unit Cost*	*Total Cost*
Central Buckeye			
Water			
Storage	3,340,088	$1.50	$5,010,132
Booster Pump Capacity	8,698	$300	$2,609,444
Wells	7	$1,200,000	$8,400,000
Treatment	3,340,088	$2.00	$6,680,176
Water Resource	49%	$9,000,000	$4,426,373
16" (MC85 Extension)	15,840	$120	$1,900,800
16" (Sundanc-Downtown)	32,320	$120	$3,878,400
16" (Monroe Extension	5,280	$120	$633,600
16" (SR 85 Supply and Transmission)	21,120	$120	$2,534,400
16" (Palo Verde)	21,120	$120	$2,534,400
36" Water Line	3,816	$230	$877,727
30" Water Line	3,442	$220	$757,316
24" Water Line	1,913	$165	$315,610
20" Water Line	7,836	$150	$1,175,348
16" Water Line	101,297	$120	$12,155,610
Total			$53,889,335

Component	*Growth Quantity*	*Unit Cost*	*Total Cost*
Sundance			
Water			
Storage	898,806	$1.50	$1,348,209
Booster Pump Capacity	3,497	$250	$874,171
Wells	2	$1,200,000	$2,400,000
Treatment	898,806	$1.50	$1,348,209
Water Resource	5%	$9,000,000	$421,260
16" Water Line	6,982	$120	$837,854
Total			$7,229,703

Water South

Figure D7 – Existing Water Facilities South

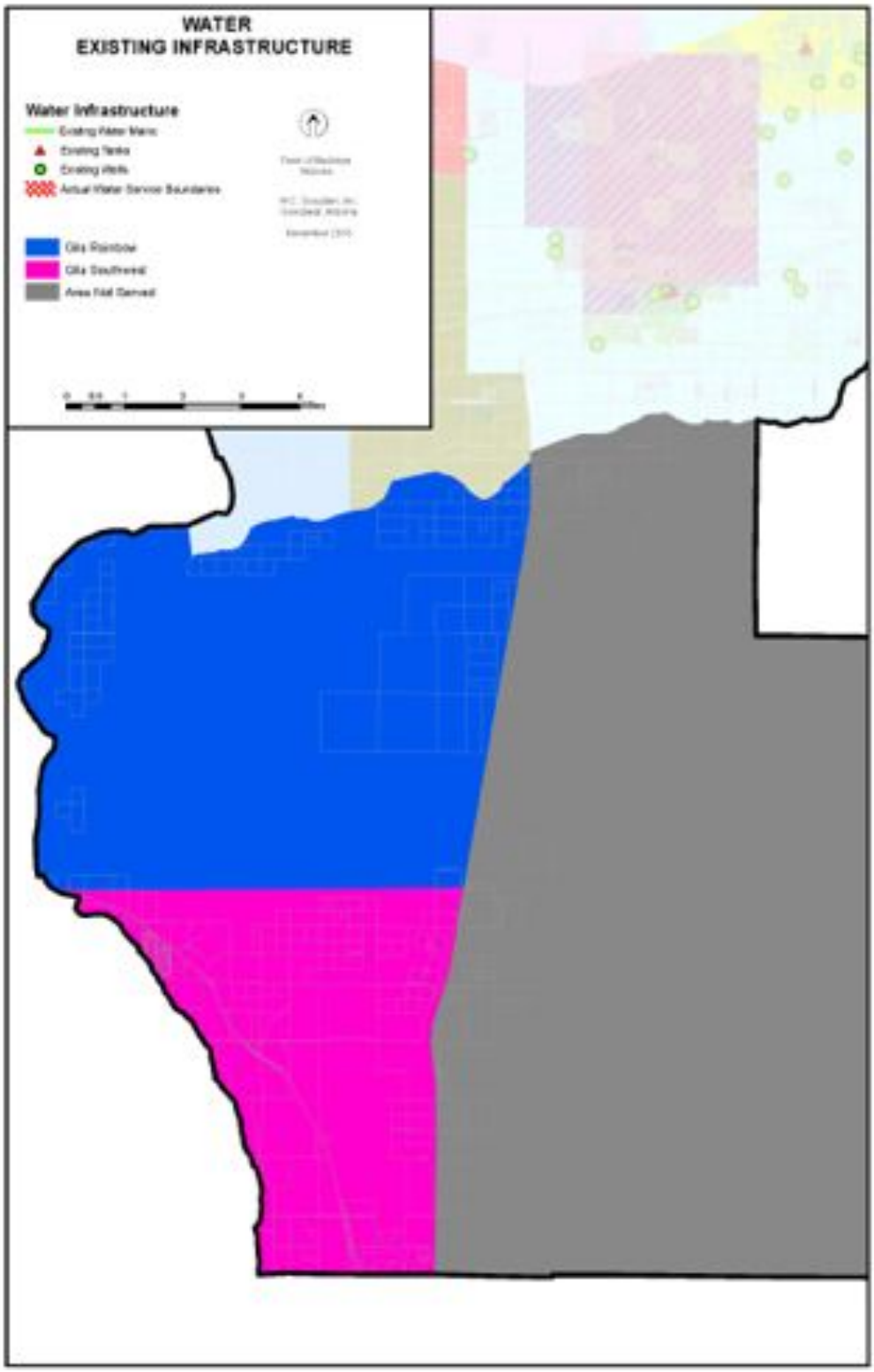


Figure D8 – South Water IIP

Component	*Capacity*	*Unit Cost*	*Total Cost*
Gila Southwest ***Water***			
Storage	799,376	$1.50	$1,199,064
Booster Pump Capacity	3,220	$250	$805,122
Wells	2	$1,200,000	$2,400,000
Treatment	0	$1.50	$0
Water Resource	2%	$9,000,000	$187,007
16" Water Line	15,746	$120	$1,889,480
Total			$6,480,672

Wastewater North

Figure D9 – Existing Wastewater Facilities North

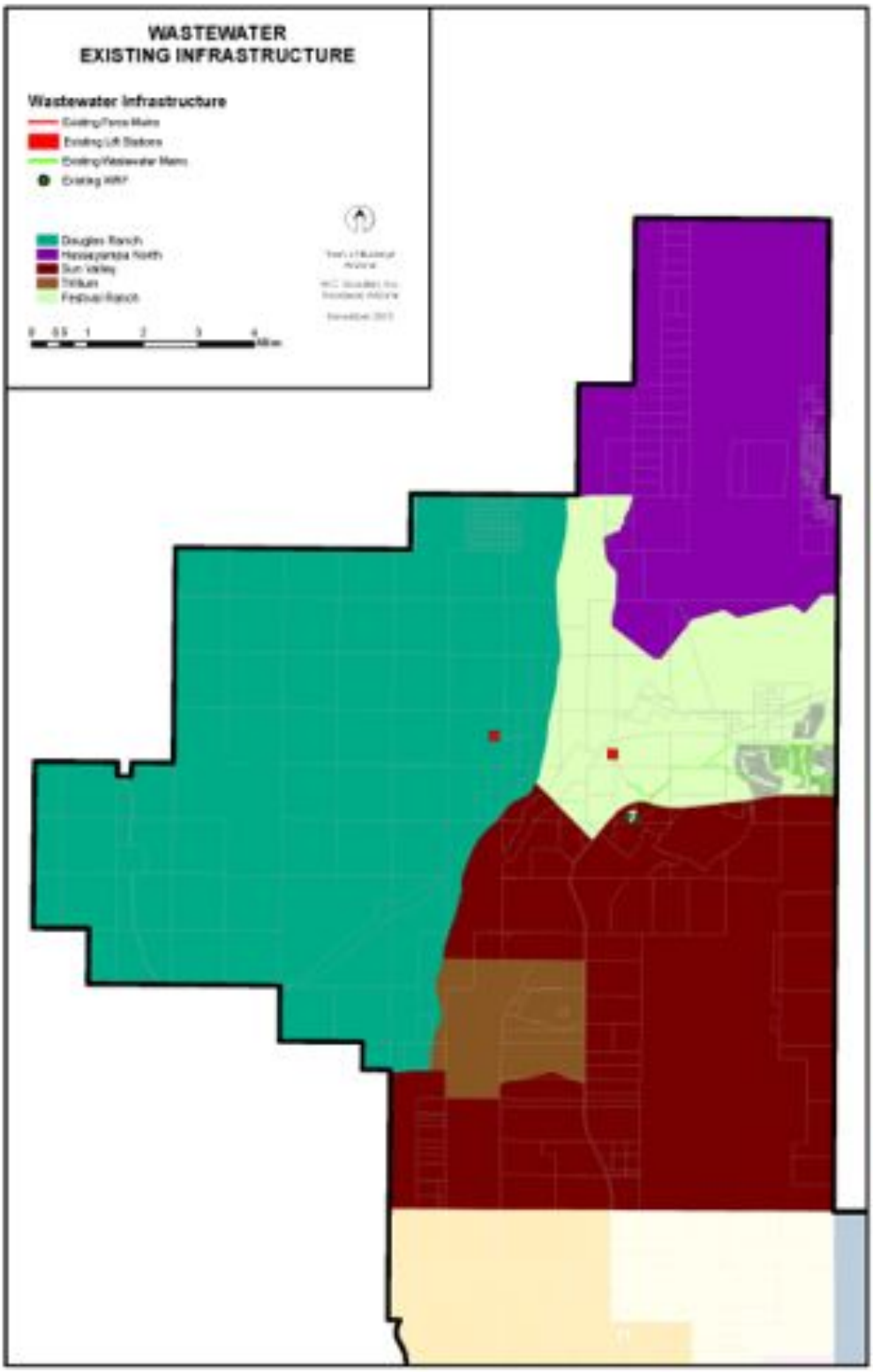


Figure D10 – North Wastewater IIP

Component	*Growth Quantity*	*Unit Cost*	*Cost*
Festival Ranch			
Wastewater			
Treatment	900,965	$7.00	$6,306,752
Recharge	450,482	$1	$450,482
16" Recharge Line	10,560	$120	$1,267,200
15" Sewer	5,316	$140	$744,220
Pumping			$0
Total			$8,768,655

Component	*Growth Quantity*	*Unit Cost*	*Cost*
Sun Valley			
Wastewater			
Treatment	285,138	$7.00	$1,995,964
Recharge	142,569	$1.00	$142,569
16" Recharge Line	10,560	$120.00	$1,267,200
15" Sewer	15,355	$140	$2,149,662
Pumping			$0
Total			$5,555,395

Wastewater Central

Figure D11 – Existing Wastewater Facilities Central

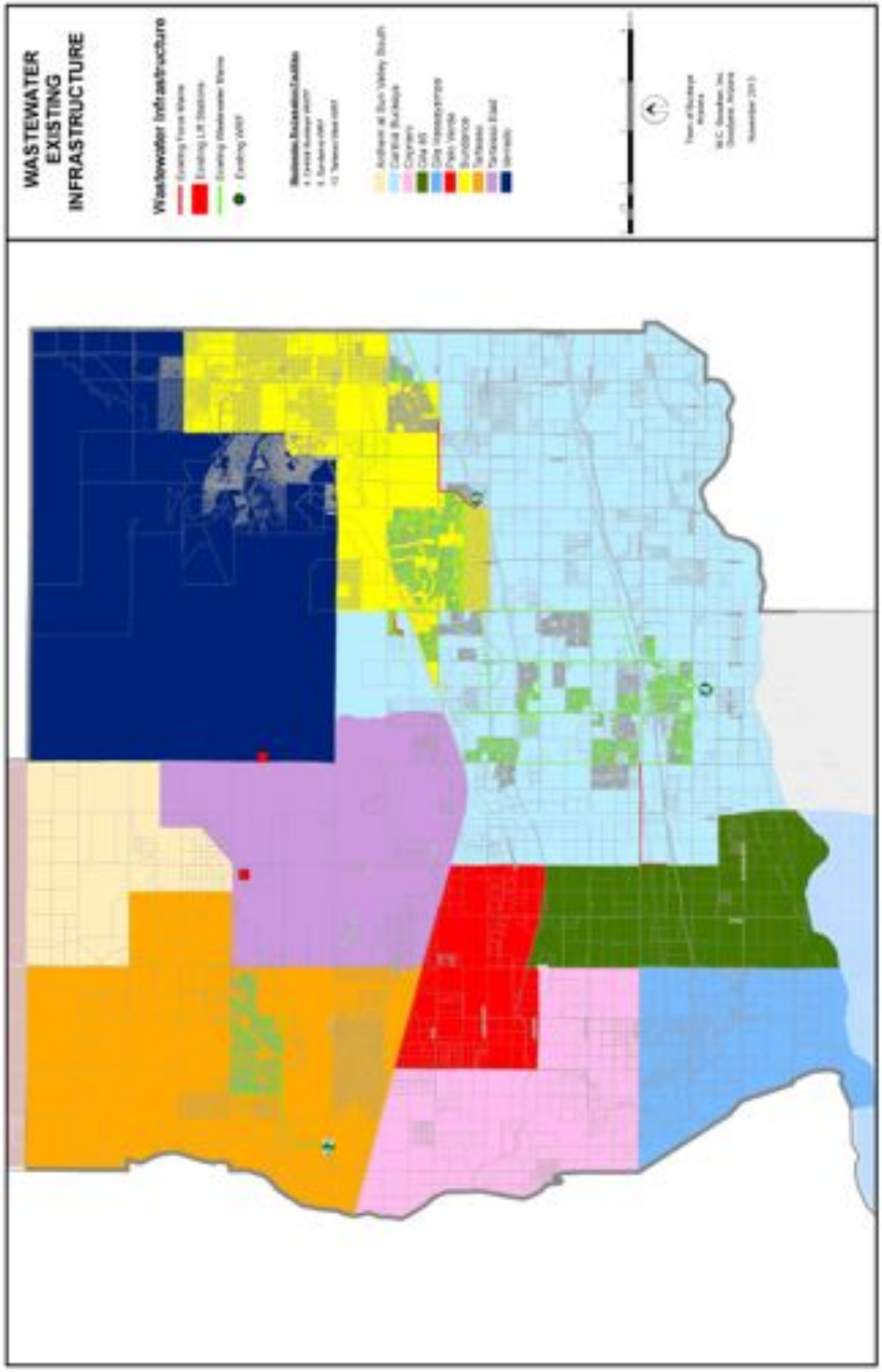


Figure D12 – Central North Wastewater IIP

Component	Growth Quantity	Unit Cost	Cost
Tartesso			
Wastewater			
Treatment	536,002	$7.00	$3,752,017
Recharge	268,001	$1.00	$268,001
16" Recharge Line	10,560	$120.00	$1,267,200
60" Sewer	3,143	$300	$942,869
48" Sewer	929	$270	$250,773
36" Sewer	112	$250	$27,963
30" Sewer	6,625	$200	$1,324,961
24" Sewer	1,018	$180	$183,214
21" Sewer	4,349	$150	$652,411
18"Sewer	8,380	$160	$1,340,821
15" Sewer	4,847	$140	$678,634
Pumping			$0
Total			$10,688,862

Component	Growth Quantity	Unit Cost	Cost
Tartesso East			
Wastewater			
Treatment	107,043	$7.00	$749,300
Recharge	53,521	$1.00	$53,521
16" Recharge Line	10,560	$120.00	$1,267,200
Collection	0		$0
Pumping			$0
Total			$2,070,021

Figure D13 – Central West Wastewater IIP

Component	Growth Quantity	Unit Cost	Cost
Cipriani			
Wastewater			
Treatment	163,139	$7.00	$1,141,971
15" Sewer	24,583	140	$3,441,619
Recharge	415,032	$1	$415,032
16" Recharge Line	10,560	$120	$1,267,200
Pumping			$0
Total			$6,265,822

Component	Growth Quantity	Unit Cost	Cost
Gila 85			
Wastewater			
Treatment	267,971	$7.00	$1,875,797
Recharge	133,985	$1.00	$133,985
16" Recharge Line	10,560	$120.00	$1,267,200
15" Sewer	36,206	140	$5,068,815
Pumping			$0
Total			$8,345,797

Component	Growth Quantity	Unit Cost	Cost
Gila Hassayampa			
Wastewater			
Treatment	127,396	7	$891,773
Recharge	63,698	$1.00	$63,698
16" Recharge Line	10,560	$120.00	$1,267,200
Collection	0		$0
Pumping	0		$0
Total			$2,222,671

Component	Growth Quantity	Unit Cost	Cost
Palo Verde			
Wastewater			
Treatment	126,137	$7.00	$882,961
Recharge	63,069	$1.00	$63,069
16" Recharge Line	10,560	$120.00	$1,267,200
15" Sewer	10,610	$140	$1,485,376
Pumping			$0
Total			$3,698,606

Figure D14 – Central East Wastewater IIP

Component	*Growth Quantity*	*Unit Cost*	*Cost*
Central Buckeye			
Wastewater			
Treatment	4,209,981	$7.00	$29,469,869
Perryville Trunk Line	10,560	$120	$1,267,200
Effluent Line from Beloat to BWCDD Canal	10,032	$175	$1,755,600
54" Sewer	184	$300	$55,167
42" Sewer	2,659	$270	$717,892
36" Sewer	18,511	$250	$4,627,803
33" Sewer	1,159	$240	$278,220
30" Sewer	4,542	$200	$908,392
24" Sewer	3,416	$180	$614,812
18" Sewer	24,903	$160	$3,984,534
15" Sewer	41,088	$140	$5,752,266
16" Recharge Line	10,560	$120	
Recharge	2,104,991	$1	$2,104,991
Pumping			$0
Total			$51,536,744

Component	*Growth Quantity*	*Unit Cost*	*Cost*
Sundance			
Wastewater			
Treatment	729,929	$7.00	$5,109,506
Recharge	364,965	$1.00	$364,965
16" Recharge Line	10,560	$120.00	$1,267,200
27" Sewer	4,195	$180	$755,137
18" Sewer	1,033	$160	$165,284
15" Sewer	6,268	$140	$877,486
Pumping			$0
Total			$8,539,578

Wastewater South

Figure D15 – Existing Wastewater Facilities South

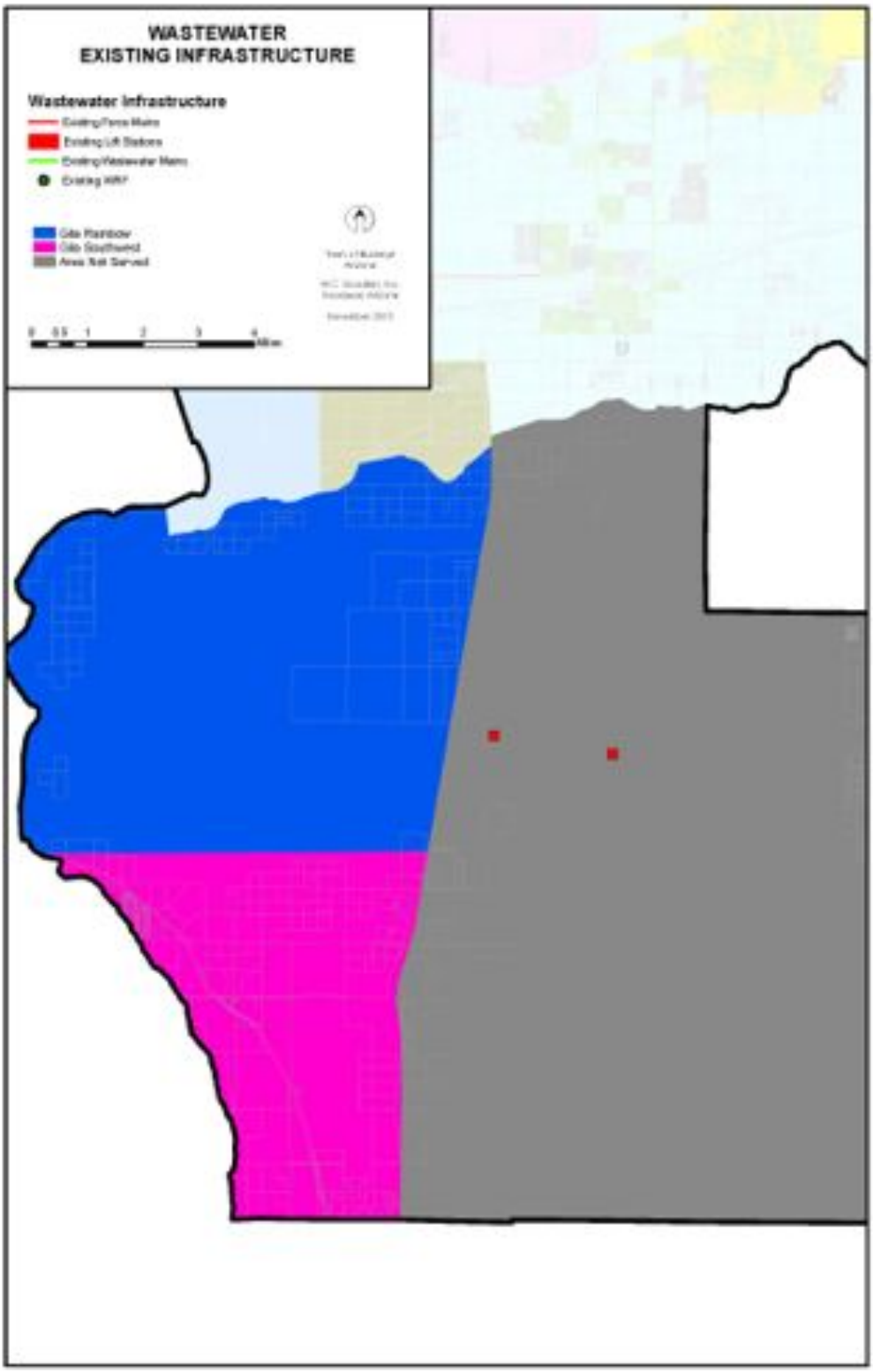


Figure D16 – South Wastewater IIP

Component	*Growth Quantity*	*Unit Cost*	*Cost*
Gila Southwest			
Wastewater			
Treatment	117,873	$7	$825,108
Recharge	58,936	$1	$58,936
16" Recharge Line	10,560	$120	$1,267,200
15" Sewer	5,318	$140	$744,486
Pumping	0		$0
Total			$2,895,730